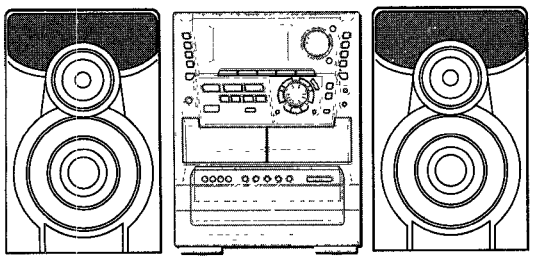
aiwa

aiwa SERVICE

NSX-MTD9
NSX-AVT9

SERVICE MANUAL



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM: 2ZM-3MK2 PR4NM
- BASIC CD MECHANISM: 6ZG-1 SDFNSHM
- TYPE: U,LH

REVISION PUBLISHING

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-MTD9 (TYPE: U)	CX-NMTD9	SX-ND8 SX-R275 SX-C605	RC-ZAS05
NSX-AVT9 (TYPE: LH)	CX-NAVT9	SX-NT8 SX-CR677	

- This Service Manual is the "Revision Publishing" and replaces Simple Manual NSX-MTD9/AVT9 (S/M Code No. 09-993-411-9T1) .
- If requiring information about the CD mechanism, see Service Manual of 6ZG-1 (S/M Code No.09-994-326-2N2).

S/M Code No. 09-995-411-9R1

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SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<AM Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<Amplifier section (U)>

Power output	**Front** 155 W + 155 W (50 Hz-20 kHz, THD less than 1 %, 6 ohms) **Rear (Surround)** 33 W + 33 W (50 Hz-20 kHz, THD less than 1 %, 8 ohms) **Center** 34 W (50 Hz-20 kHz, THD less than 1 %, 8 ohms)
Total harmonic distortion	0.1 % (100 W, 1 kHz, 6 ohms, DIN AUDIO/front)

<Amplifier section (LH)>

Power output	**Front** Rated: 150 W + 150 W (1 kHz, THD 1 %, 6 ohms) Reference: 185 W + 185 W (1 kHz, THD 10 %, 6 ohms) **Rear (Surround)** Rated: 33 W + 33 W (1 kHz, THD 1 %, 8 ohms) Reference: 40 W + 40 W (1 kHz, THD 10 %, 8 ohms) **Center** Rated: 33 W (1 kHz, THD 1 %, 8 ohms) Reference: 40 W (1 kHz, THD 10 %, 8 ohms)
Total harmonic distortion	0.1 % (110 W,1 kHz,6 ohms, DIN AUDIO/front)
Inputs	VIDEO/AUX: 300 mV (adjustable) MD: 300 mV (adjustable) MIC1,MIC2: 1.0 mV (10 kohms) 5.1CH INPUT: FRONT(L,R): 240 mV SURROUND(L,R): 240 mV CENTER: 600 mV SUB WOOFER: 240 mV
Outputs	LINE OUT: 150mV SUPER WOOFER: 1 V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 8 to 16 ohms CENTER SPEAKER: accept speakers of 8 ohms or more PHONES (stereo jack): accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO2 tape: 50 Hz – 16000 Hz Normal tape: 50 Hz – 15000 Hz
Signal to noise ratio	60dB (Dolby B NR ON, CrO2 tape peak level)
Recording system	AC bias
Heads	Deck 1: Playback head x 1 Deck 2: Recording/Playback head x 1, erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	83 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–ND8 (U)>

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer: 160 mm ($6^3/_8$ in.) cone type Tweeter: 60 mm ($2^3/_8$ in.) cone type Super Tweeter: 20 mm ($^{13}/_{16}$ in.) ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	250 x 383 x 285 mm ($9^7/_8$ x $15^1/_8$ x $11^1/_4$ in.)
Weight	5.8 kg (12 lbs 14 oz)

<Speaker system SX–NT8 (LH)>

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer: 160 mm ($6^3/_8$ in.) cone type Tweeter: 60 mm ($2^3/_8$ in.) cone type Super Tweeter: 20 mm ($^{13}/_{16}$ in.) ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	250 x 383 x 285 mm ($9^7/_8$ x $15^1/_8$ x $11^1/_4$ in.)
Weight	5.8 kg (12 lbs 14 oz)

<General>

Power requirements	U: 120 V AC, 60 Hz LH: 120 V/220-230 V/240 V AC switchable, 50/60 Hz
Power consumption	U: 220 W LH: 270 W
Dimensions of main unit	300 x 383.5 x 380 mm ($11^7/_8$ x $15^1/_8$ x 15 in.)
Weight of main unit	13 kg (28 lbs.11 oz)

Standby power consumption
If the power-economizing mode is OFF: 36 W<U>
If the power-economizing mode is OFF: 34 W<LH>
If the power-economizing mode is ON: 1.5 W

- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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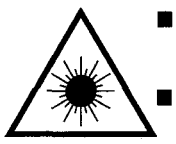
- The word "BBE"and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound,Inc.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saataa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utillisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

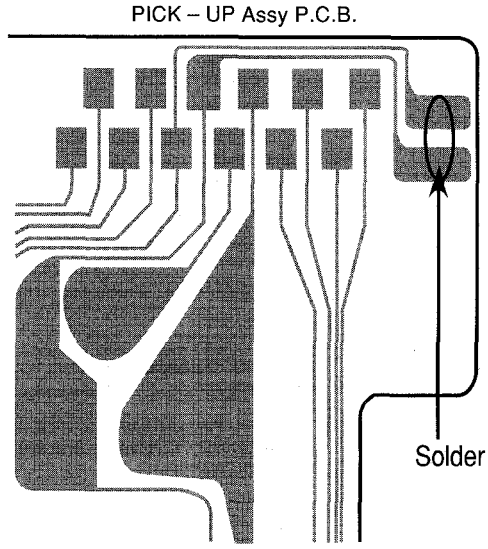
CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block

(KSS-213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure to ground body and workbench, and ensure clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.



NOTE ON BEFORE STARTING REPAIR

1. Forced discharge of electrolytic capacitor of power supply block

When repair is going to be attempted in the set that uses relay circuit in the power supply block, electric potential is kept charged across the electrolytic capacitors (C101, 102) even though AC power cord is removed. If repair is attempted in this condition, secondary defect can occur.
In order to prevent the secondary trouble, perform the following measures before starting repair work.

Discharge procedure

① Remove the AC power cord.
② Connect a discharging resistor at an end of lead wire that has clips at both ends. Connect the other end of the lead wire to metal chassis.
③ Contact the other end of the discharging resistor to the positive (+) side (+VH) of C101. (For two seconds)
④ Contact the same end of the discharging resistor as step ③ to the negative (-) side (-VH) of C102 in the same way. (For two seconds)
⑤ Check that voltage across C101 and C102 has decreased to 1 V or less using a multimeter or an oscilloscope.

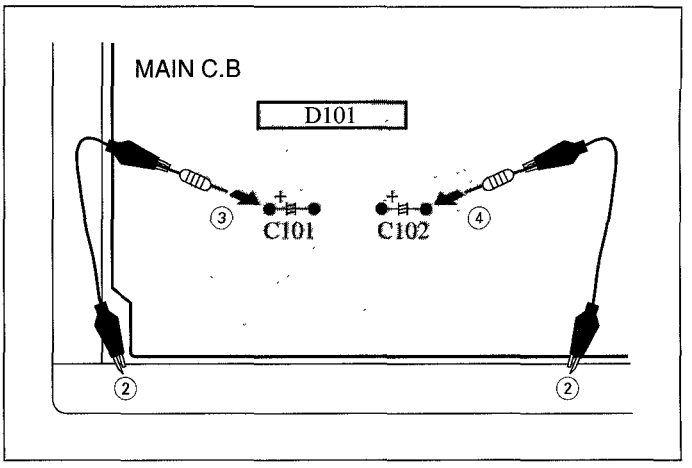


Fig-1

Select a discharging resistor referring to the following table.

Charging voltage (V) (C101, 102)	Discharging resistor (Ω)	Rated power (W)	Parts number
25-48	100	3	87-A00-247-090
49-140	220	5	87-A00-232-090

Note: The reference numbers (C101, C102) of the electrolytic capacitors can change depending on the models. Be sure to check the reference numbers of the charging capacitor on schematic diagram before starting the discharging work.

2. Check items before exchanging the MICROCOMPUTER

Be sure to check the following items before exchanging the MICROCOMPUTER. Exchange the MICROCOMPUTER after confirming that the MICROCOMPUTER is surely defective.

2-1. Regarding the HOLD terminal of the MICROCOMPUTER

When the HOLD terminal (INPUT) of the MICROCOMPUTER is "H", the MICROCOMPUTER is judged to be operating correctly. When this terminal is "L", the main power cannot be turned on. Therefore, be sure to check the terminal voltage of the HOLD terminal before exchange.
When the MICROCOMPUTER is not defective, the HOLD terminal can also go "L" when the POWER AMPLIFIER has any abnormalities that triggers the abnormality detection circuit on the MAIN C. B. that sets the HOLD terminal to "L".

- **Good or no good judgment of the MICROCOMPUTER**

① Turn on the AC main power.
② Confirm that the main power is turned on and the HOLD terminal of the MICROCOMPUTER keeps the "H" level or not.
③ When the HOLD terminal is "L" level, the abnormality detection circuit is judged to be working correctly and the MICROCOMPUTER is judged to be good.

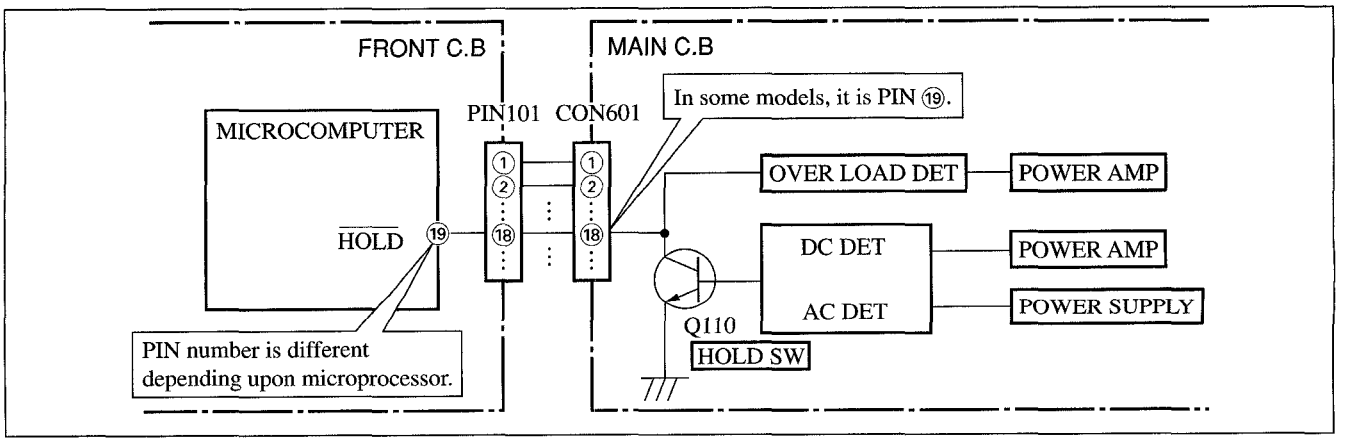


Fig-2-1

In such a case, check also if the POWER AMPLIFIER circuit or power supply circuit has any abnormalities or not.

2-2. Regarding reset

There are cases that the machine does not work correctly because the MICROCOMPUTER is not reset even though the AC power cord is re-inserted, or the software reset (pressing the STOP key + POWER key) is performed.
When the above described phenomenon occurs, it can lead to wrong judgment as if the MICROCOMPUTER is defective and to exchange the MICROCOMPUTER. In such a case, perform the forced-reset by the following procedure and check good or no good of the MICROCOMPUTER.

① Remove the AC power cord.

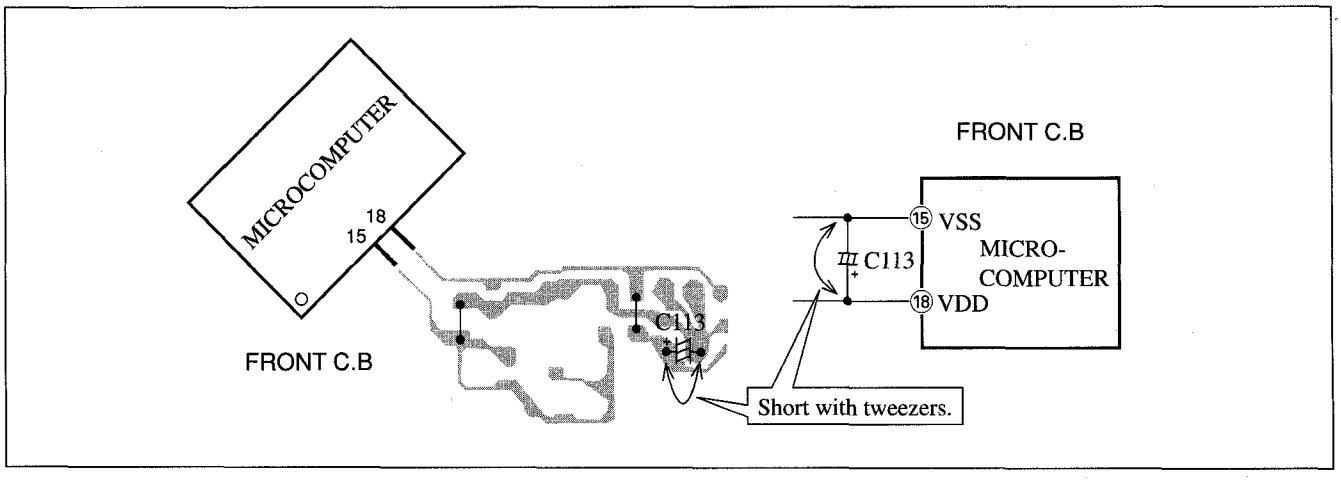


Fig-2-2

② Short both ends of the electrolytic capacitor C113 that is connected to VDD of the MICROCOMPUTER with tweezers.
③ Connect the AC power cord again. If the MICROCOMPUTER returns to the normal operation, the MICROCOMPUTER is good.

Note: The reference number or MICROCOMPUTER pin number of transistor (Q110) and electrolytic capacitor (C113) can change depending on the models. Be sure to check the reference numbers on schematic diagram before starting the discharging work.

2-3. Confirmation of soldering state of MICROCOMPUTER

Check the soldering state of the MICROCOMPUTER in addition to the above described procedures. Be sure to exchange the MICROCOMPUTER after surely confirming that the trouble is not caused by poor soldering but the MICROCOMPUTER itself.

ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	8Z-NF3-605-010		C-IC,LC876580W-5K75
	87-A20-914-010		IC,SPS-442-1-F
	87-A20-355-010		IC,CXA1553P
	87-A20-783-040		C-IC,BA7762AFS
	87-A21-023-040		C-IC,BA3835F
	87-A21-022-040		C-IC,BA3880FS
	87-A21-021-040		C-IC,BU2099FV
	87-A21-202-040		C-IC,M62445AFP
	87-A21-051-040		C-IC,BU9990-03FS
	87-A21-097-040		C-IC,M62463AFP
	87-A21-015-040		C-IC,M62491FP
	87-A20-869-040		C-IC,M62449FP
	87-070-127-110		IC,LC72131 D
	87-A20-913-010		IC,LA1837NL
TRANSISTOR			
	87-A30-218-080		TR,2SB1237Q
	87-026-610-080		TR,KTC3198GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-075-080		C-TR,2SA1235F
	87-A30-196-080		TR,2SC4115SRS
	87-A30-240-080		TR,CSA1585BC
	87-026-609-080		TR,KTA1266GR
	87-A30-087-080		C-FET,2SK2158
	87-A30-257-080		C-TR,2SD1306E
	89-213-702-010		TR,2SB1370 (E)
	87-026-245-080		TR,DTC114ES
	87-A30-198-080		TR,KTC3199GR
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-268-040		C-TR,2SA1514K(S)
	87-A30-190-080		TR,CC5551
	87-A30-205-010		TR,2SB1588
	87-A30-204-010		TR,2SD2439
	87-A30-106-070		C-TR,CMBT5551
	87-A30-276-040		C-TR,DTA143EKA
	87-A30-214-010		TR,2SB1344
	87-A30-215-010		TR,2SD2025
	87-A30-105-080		C-TR,RT1P 441C
	87-A30-186-010		FET,2SK3053
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-074-080		C-TR,RT1P 141C
	87-A30-142-040		C-TR,DTA123EKA
	87-A30-067-080		C-TR,2SA1298Y
	89-327-143-080		C-TR,2SC2714O
DIODE			
	87-A40-224-010		DIODE,GBU8DL
	87-A40-553-080		DIODE,1N4003 LES
	87-A40-503-080		ZENER,MTZJ39B
	87-020-465-080		DIODE,1SS133 (110MA)
	87-A40-345-080		ZENER,MTZJ10C
	87-A40-270-080		C-DIODE,MC2838
	87-A40-269-080		C-DIODE,MC2836
	87-A40-004-080		ZENER,MTZJ16A
	87-070-274-080		DIODE,1N4003 SEM
	87-017-447-010		DIODE,GBU4DL
	87-017-654-060		DIODE,GBU6J
	87-A40-440-080		ZENER,MTZJ7.5A
	87-A40-488-080		DIODE,1SS244
	87-020-331-080		CHIP-DIODE,DAN202K
	87-017-932-080		ZENER,MTJ6.2B
	87-070-136-080		ZENER,MTZJ5.1B
	87-A40-620-080		ZENER,MTZJ6.2A
	87-A40-646-010		DIODE,FMB-G16L
	87-A40-002-080		ZENER,MTZJ5.1C
	87-A40-438-080		ZENER,MTZJ4.7A
	87-A40-234-080		ZENER,MTZJ5.6A
	87-A40-392-010		DIODE,1N5818
	87-017-931-080		ZENER,MTZJ5.6B
	87-A40-442-080		ZENER,MTZJ9.1A
MAIN C.B			
	88-906-481-110		FF-CABLE, 6P 1.25 480MM
C1	87-012-369-080		C-CAP,S 0.047-50F
C2	87-012-369-080		C-CAP,S 0.047-50F
C3	87-012-368-080		C-CAP,S 0.1-50 F
C4	87-012-368-080		C-CAP,S 0.1-50 F
C5	87-012-368-080		C-CAP,S 0.1-50 F
C6	87-012-368-080		C-CAP,S 0.1-50 F
C9	87-016-658-090		CAP,E 4700~35 SMG
C10	87-016-658-090		CAP,E 4700~35 SMG
C21	87-010-385-080		CAP, ELECT 220-25V
C22	87-010-385-080		CAP, ELECT 220-25V
C23	87-010-247-080		CAP, ELECT 100-50V
C24	87-010-247-080		CAP, ELECT 100-50V
C25	87-010-430-080		CAP, ELECT 100-63V
C26	87-010-263-080		CAP, ELECT 100-10V
C27	87-012-140-080		CAP 470P
C28	87-010-263-080		CAP, ELECT 100-10V<U>
C29	87-010-247-080		CAP, ELECT 100-50V
C30	87-010-381-080		CAP, ELECT 330-16V
C31	87-010-235-080		CAP,E 470-16 SME
C61	87-010-234-080		CAP 47-16
C62	87-010-415-080		CAP ELE SRE 10-50V
C91	87-010-401-080		CAP, ELECT 1-50V
C92	87-010-263-080		CAP, ELECT 100-10V
C93	87-010-380-080		CAP, ELECT 47-16V
C101	87-010-182-080		C-CAP,S 2200P-50 B
C102	87-010-182-080		C-CAP,S 2200P-50 B
C125	87-012-368-080		C-CAP,S 0.1-50 F
C126	87-012-368-080		C-CAP,S 0.1-50 F
C127	87-012-368-080		C-CAP,S 0.1-50 F
C128	87-012-368-080		C-CAP,S 0.1-50 F
C134	87-010-419-080		CAP,E 4.7-16 SL
C201	87-010-402-080		CAP, ELECT 2.2~50V
C202	87-010-402-080		CAP, ELECT 2.2~50V
C229	87-010-993-080		C-CAP,S 0.056-25 B
C230	87-010-993-080		C-CAP,S 0.056-25 B
C231	87-010-196-080		CHIP CAPACITOR,0.1-25
C232	87-010-196-080		CHIP CAPACITOR,0.1-25
C239	87-010-196-080		CHIP CAPACITOR,0.1-25
C251	87-010-402-080		CAP, ELECT 2.2~50V
C252	87-010-183-080		C-CAP,S 2700P-50 B
C301	87-010-318-080		C-CAP,S 47P-50 CH
C302	87-010-318-080		C-CAP,S 47P-50 CH
C303	87-012-157-080		C-CAP,S 330P-50 CH
C304	87-012-157-080		C-CAP,S 330P-50 CH
C305	87-012-145-080		CAP, CHIP S 270P CH
C306	87-012-145-080		CAP, CHIP S 270P CH
C307	87-010-196-080		CHIP CAPACITOR,0.1-25
C311	87-010-198-080		CAP, CHIP 0.022
C312	87-010-198-080		CAP, CHIP 0.022
C313	87-010-181-080		C-CAP,S 1800P
C314	87-010-181-080		C-CAP,S 1800P
C315	87-010-179-080		CAP,CHIP S B1200P
C316	87-010-179-080		CAP,CHIP S B1200P
C317	87-012-142-080		CAP, S 0.33-16
C318	87-012-142-080		CAP, S 0.33-16
C319	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C320	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C321	87-012-142-080		CAP, S 0.33-16
C322	87-012-142-080		CAP, S 0.33-16
C324	87-010-260-080		CAP, ELECT 47-25V
C325	87-010-370-080		CAP,E 330-6.3 SME
C327	87-010-404-080		CAP, ELECT 4.7-50V

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C328	87-010-404-080		CAP, ELECT 4.7-50V
C332	87-010-196-080		CHIP CAPACITOR,0.1-25
C335	87-010-401-080		CAP, ELECT 1-50V
C336	87-010-401-080		CAP, ELECT 1-50V
C337	87-010-196-080		CHIP CAPACITOR,0.1-25
C339	87-010-196-080		CHIP CAPACITOR,0.1-25
C340	87-010-196-080		CHIP CAPACITOR,0.1-25
C351	87-012-140-080		CAP 470P
C352	87-012-140-080		CAP 470P
C354	87-010-175-080		CAP 560P
C355	87-012-349-080		C-CAP,S 1000P-50 CH
C356	87-010-260-080		CAP, ELECT 47-25V
C357	87-010-197-080		CAP, CHIP 0.01 DM
C358	87-010-183-080		C-CAP,S 2700P-50 B
C359	87-010-183-080		C-CAP,S 2700P-50 B
C360	87-010-183-080		C-CAP,S 2700P-50 B
C363	87-A10-772-080		CAP,M 5600P-50 J
C370	87-010-196-080		CHIP CAPACITOR,0.1-25
C371	87-010-175-080		CAP 560P
C372	87-010-175-080		CAP 560P
C373	87-010-179-080		CAP,CHIP S B1200P
C374	87-010-179-080		CAP,CHIP S B1200P
C375	87-010-545-080		CAP, ELECT 0.22-50V
C376	87-010-545-080		CAP, ELECT 0.22-50V
C378	87-010-196-080		CHIP CAPACITOR,0.1-25
C381	87-010-197-080		CAP, CHIP 0.01 DM
C382	87-010-318-080		C-CAP,S 47P-50 CH
C383	87-010-197-080		CAP, CHIP 0.01 DM
C384	87-010-402-080		CAP, ELECT 2.2-50V
C385	87-010-184-080		CHIP CAPACITOR 3300P(K)
C386	87-010-196-080		CHIP CAPACITOR,0.1-25
C388	87-012-156-080		C-CAP,S 220P-50 CH
C401	87-010-196-080		CHIP CAPACITOR,0.1-25
C402	87-010-260-080		CAP, ELECT 47-25V
C403	87-010-404-080		CAP, ELECT 4.7-50V
C404	87-010-404-080		CAP, ELECT 4.7-50V
C405	87-010-404-080		CAP, ELECT 4.7-50V
C406	87-010-404-080		CAP, ELECT 4.7-50V
C407	87-010-188-080		CAP,CHIP 6800P
C408	87-010-188-080		CAP,CHIP 6800P
C409	87-012-140-080		CAP 470P
C410	87-012-140-080		CAP 470P
C411	87-010-404-080		CAP, ELECT 4.7-50V
C412	87-010-404-080		CAP, ELECT 4.7-50V
C413	87-010-404-080		CAP, ELECT 4.7-50V
C414	87-010-404-080		CAP, ELECT 4.7-50V
C415	87-010-197-080		CAP, CHIP 0.01 DM
C416	87-010-197-080		CAP, CHIP 0.01 DM
C417	87-010-956-080		CHIP-CAP,S 0.068-25B
C418	87-010-956-080		CHIP-CAP,S 0.068-25B
C419	87-010-260-080		CAP, ELECT 47-25V
C451	87-010-404-080		CAP, ELECT 4.7-50V
C452	87-010-404-080		CAP, ELECT 4.7-50V
C458	87-010-196-080		CHIP CAPACITOR,0.1-25
C461	87-010-067-080		CAP,E 0.1-50 5L
C601	87-010-183-080		C-CAP,S 2700P-50 B
C602	87-010-183-080		C-CAP,S 2700P-50 B
C605	87-010-318-080		C-CAP,S 47P-50 CH
C606	87-010-318-080		C-CAP,S 47P-50 CH
C607	87-010-318-080		C-CAP,S 47P-50 CH
C608	87-010-318-080		C-CAP,S 47P-50 CH
C613	87-016-081-080		C-CAP,S 0.1-16 RK
C614	87-016-081-080		C-CAP,S 0.1-16 RK
C615	87-A11-011-080		CAP,M 0.12-50 J DE
C616	87-A11-011-080		CAP,M 0.12-50 J DE
C617	87-A11-009-080		CAP,M 0.068-50 J DE
C618	87-A11-009-080		CAP,M 0.068-50 J DE
C619	87-010-185-080		C-CAP,S 3900P-50 B
C620	87-010-185-080		C-CAP,S 3900P-50 B
C621	87-010-401-080		CAP, ELECT 1-50V
C622	87-010-401-080		CAP, ELECT 1-50V
C623	87-A10-773-080		CAP,M 0.10-50 J
C624	87-A10-773-080		CAP,M 0.10-50 J
C625	87-010-405-080		CAP, ELECT 10-50V
C626	87-010-405-080		CAP, ELECT 10-50V
C627	87-010-196-080		CHIP CAPACITOR,0.1-25
C629	87-010-405-080		CAP, ELECT 10-50V
C630	87-010-213-080		C-CAP,S 0.015-50 B
C631	87-010-992-080		C-CAP,S 0.047-25 B
C632	87-010-263-080		CAP, ELECT 100-10V
C633	87-010-263-080		CAP, ELECT 100-10V
C634	87-010-196-080		CHIP CAPACITOR,0.1-25
C635	87-010-196-080		CHIP CAPACITOR,0.1-25
C636	87-010-992-080		C-CAP,S 0.047-25 B
C637	87-010-183-080		C-CAP,S 2700P-50 B
C640	87-010-314-080		C-CAP,S 22P-50V
C641	87-010-196-080		CHIP CAPACITOR,0.1-25
C653	87-010-322-080		C-CAP,S 100P-50 CH
C654	87-010-322-080		C-CAP,S 100P-50 CH
C677	87-010-196-080		CHIP CAPACITOR,0.1-25
C678	87-010-196-080		CHIP CAPACITOR,0.1-25
C679	87-010-178-080		CHIP CAP 1000P<U>
C679	87-010-196-080		CHIP CAPACITOR,0.1-25<LH>
C680	87-010-196-080		CHIP CAPACITOR,0.1-25
C699	87-018-131-080		CAP,TC U 1000P-50 K B<U>
C731	87-010-560-080		CAP,E 10-50 GAS
C732	87-010-196-080		CHIP CAPACITOR,0.1-25
C733	87-010-958-080		CHIP -CAP,S 0.01-25BJ
C734	87-012-156-080		C-CAP,S 220P-50 CH
C735	87-010-178-080		CHIP CAP 1000P
C736	87-010-196-080		CHIP CAPACITOR,0.1-25
C741	87-010-178-080		CHIP CAP 1000P
C801	87-010-176-080		C-CAP,S 680P-50 SL
C802	87-010-176-080		C-CAP,S 680P-50 SL
C803	87-010-958-080		CHIP -CAP,S 0.01-25BJ
C804	87-010-958-080		CHIP -CAP,S 0.01-25BJ
C805	87-010-958-080		CHIP -CAP,S 0.01-25BJ
C806	87-010-958-080		CHIP -CAP,S 0.01-25BJ
C807	87-010-401-080		CAP, ELECT 1-50V
C808	87-010-401-080		CAP, ELECT 1-50V
C809	87-010-196-080		CHIP CAPACITOR,0.1-25
C810	87-010-112-080		CAP, ELECT 100-16V
C811	87-010-495-080		CAP,E2.2-50
C812	87-010-495-080		CAP,E2.2-50
C813	87-010-401-080		CAP, ELECT 1-50V
C814	87-010-494-080		CAP ELECT GAS 1/50
C815	87-010-492-080		CAP,E 0.33-50 M 5L SRE
C816	87-010-492-080		CAP,E 0.33-50 M 5L SRE
C817	87-010-221-080		CAP, ELECT 470-10V
C818	87-A10-891-080		CAP,E 4.7-25 SME(K)
C819	87-A10-800-080		C-CAP,S 6800P-16 J B CM
C820	87-010-374-080		CAP, ELECT 47-10V
C821	87-010-196-080		CHIP CAPACITOR,0.1-25
C822	87-A10-804-080		C-CAP,S 0.1-25 J B
C824	87-010-374-080		CAP, ELECT 47-10V
C825	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-545-080		CAP, ELECT 0.22-50V
C830	87-012-142-080		CAP, S 0.33-16
C831	87-010-971-080		C-CAP,S 4700P-50 B J
C832	87-012-349-080		C-CAP,S 1000P-50 CH
C833	87-A11-183-080		C-CAP,S 0.12-16 J B
C834	87-A11-182-080		C-CAP,S 0.27-16 J B
C835	87-A11-182-080		C-CAP,S 0.27-16 J B
C836	87-A11-183-080		C-CAP,S 0.12-16 J B
C837	87-010-971-080		C-CAP,S 4700P-50 B J
C838	87-012-349-080		C-CAP,S 1000P-50 CH
C839	87-010-805-080		CAP, S 1-16
C840	87-010-401-080		CAP, ELECT 1-50V
C841	87-A10-799-080		C-CAP,S 5600P-16 J B CM
C842	87-A10-802-080		C-CAP,S 0.047-16 J B CM

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C843	87-A10-229-080		C-CAP,S 0.68-10 K W5
C844	87-012-393-080		C-CAP,S 0.22-16 R K
C845	87-012-393-080		C-CAP,S 0.22-16 R K
C846	87-010-404-080		CAP, ELECT 4.7~50V
C847	87-010-404-080		CAP, ELECT 4.7~50V
C848	87-012-393-080		C-CAP,S 0.22-16 R K
C849	87-012-393-080		C-CAP,S 0.22-16 R K
C850	87-016-081-080		C-CAP,S 0.1-16 RK
C851	87-A10-802-080		C-CAP,S 0.047-16 J B CM
C852	87-A10-802-080		C-CAP,S 0.047-16 J B CM
C853	87-016-081-080		C-CAP,S 0.1-16 RK
C854	87-016-081-080		C-CAP,S 0.1-16 RK
C855	87-A10-801-080		C-CAP,S 0.022-16 J B CM
C856	87-A10-801-080		C-CAP,S 0.022-16 J B CM
C857	87-016-081-080		C-CAP,S 0.1-16 RK
C861	87-010-196-080		CHIP CAPACITOR,0.1-25
C863	87-010-196-080		CHIP CAPACITOR,0.1-25
C865	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C866	87-010-194-080		CAP, CHIP 0.047
C867	87-A10-201-080		C-CAP,S0.33-16 KB
C868	87-A10-060-080		C-CAP,S 0.18-16 K B
C878	87-010-494-080		CAP ELECT GAS 1/50
C879	87-010-179-080		CAP,CHIP S B1200P
C880	87-010-179-080		CAP,CHIP S B1200P
C881	87-010-179-080		CAP,CHIP S B1200P
C882	87-010-179-080		CAP,CHIP S B1200P
C898	87-010-993-080		C-CAP,S 0.056-25 B
C899	87-010-196-080		CHIP CAPACITOR,0.1-25
CN1	87-A60-739-010		CONN,13P JL-BT
CN91	87-A60-109-010		CONN,2P V S2M-2W
CN92	87-A60-109-010		CONN,2P V S2M-2W
CN201	87-A60-739-010		CONN,13P JL-BT
CN301	87-A60-620-010		CONN,3P V 2MM JMT
CN351	87-A60-625-010		CONN,8P V 2MM JMT
CN601	87-099-719-010		CONN,30P TYK-B(X)
CN602	87-A60-061-010		CONN,06P V 9604S-06C
CN604	87-099-570-010		CONN,13P TUC-P13P-B1
CN901	87-099-568-010		CONN,11P TUC-P11P-B1
CNA1	8Z-NF3-645-010		CONN ASSY,9P VH
J201	87-A60-483-010		JACK,DIA6.3 BLK ST W/S KM
J203	87-A60-238-010		TERMINAL,SP 4P (MSC)
J206	87-A60-750-010		JACK,PIN 4P R/W BLUE
J601	87-A60-426-010		JACK,PIN 6P YKC21-3835
J831	87-A60-746-010		JACK,PIN 6P R/W,R/W, O/B
JR630	83-XM1-617-080		C-COIL,BK2125HM601<U>
JW16	87-A90-896-080		F-BEAD,035600STY7
JW112	87-A90-896-080		F-BEAD,035600STY7
L101	87-003-383-010		COIL,1UH-S
L102	87-003-383-010		COIL,1UH-S
L201	87-003-383-010		COIL,1UH-S
L202	87-003-383-010		COIL,1UH-S
L301	87-A50-049-010		COIL,TRAP 85K(COI)
L302	87-A50-049-010		COIL,TRAP 85K(COI)
L351	87-007-342-010		COIL,OSC 85K BIAS
L801	87-003-383-010		COIL,1UH-S
R20	87-A00-261-080		RES,M/F 0.56-1W J<U>
R143	87-A00-443-050		RES,390-1/2W J RP
R144	87-A00-443-050		RES,390-1/2W J RP
R145	87-A00-443-050		RES,390-1/2W J RP
R146	87-A00-443-050		RES,390-1/2W J RP
R845	87-010-195-080		C-CAP,S 0.068-25 F
SFR301	87-024-355-080		SFR,33K DIA6 H
SFR302	87-024-355-080		SFR,33K DIA6 H
SFR303	87-024-355-080		SFR,33K DIA6 H
SFR304	87-024-355-080		SFR,33K DIA6 H
SFR305	87-024-356-080		SFR,47K DIA6 H
SFR306	87-024-356-080		SFR,47K DIA6 H
SFR351	87-024-356-080		SFR,47K DIA6 H
SFR352	87-024-356-080		SFR,47K DIA6 H
WH1	87-A90-510-010		HLDR,WIRE 2.5-9P

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
FRONT C.B			
	8Z-NF3-646-010		CABLE,FFC 15P-CD
	88-915-161-110		FF-CABLE, 15P 1.25
	88-908-181-110		FF-CABLE, 8P 1.25 180MM
	88-909-381-110		FF-CABLE,9P 1.25
C104	87-010-313-080		CAP, CHIP 18P
C105	87-010-322-080		C-CAP,S 100P-50 CH
C106	87-012-145-080		CAP, CHIP S 270P CH
C107	87-012-157-080		C-CAP,S 330P-50 CH
C108	87-015-681-040		E/CAP 10-16
C110	87-010-180-080		C-CER 1500P
C112	87-010-196-080		CHIP CAPACITOR,0.1-25
C113	87-A10-189-040		CAP,E 220-10
C114	87-010-196-080		CHIP CAPACITOR,0.1-25
C115	87-010-198-080		CAP, CHIP 0.022
C116	87-010-493-040		CAP,E 0.47-50 GAS
C117	87-010-498-040		CAP,E 10-16 GAS
C118	87-010-194-080		CAP, CHIP 0.047
C119	87-A10-586-040		CAP,E 47-35 7L SR
C120	87-015-699-040		CAP,E 10-50 7L
C121	87-015-699-040		CAP,E 10-50 7L
C122	87-010-197-080		CAP, CHIP 0.01 DM
C123	87-010-196-080		CHIP CAPACITOR,0.1-25
C125	87-010-196-080		CHIP CAPACITOR,0.1-25
C128	87-010-178-080		CHIP CAP 1000P
C129	87-010-194-080		CAP, CHIP 0.047
C130	87-010-264-040		CAP,E 100-10 5L
C150	87-010-194-080		CAP, CHIP 0.047
C151	87-010-194-080		CAP, CHIP 0.047
C161	87-010-197-080		CAP, CHIP 0.01 DM
C162	87-010-182-080		C-CAP,S 2200P-50 B
C171	87-010-196-080		CHIP CAPACITOR,0.1-25
C196	87-010-194-080		CAP, CHIP 0.047
C197	87-010-194-080		CAP, CHIP 0.047
C213	87-A10-189-040		CAP,E 220-10
C351	87-012-158-080		C-CAP,S 390P-50 CH
C352	87-010-196-080		CHIP CAPACITOR,0.1-25
C353	87-010-196-080		CHIP CAPACITOR,0.1-25
C354	87-010-196-080		CHIP CAPACITOR,0.1-25
C355	87-010-196-080		CHIP CAPACITOR,0.1-25
C356	87-010-196-080		CHIP CAPACITOR,0.1-25
C357	87-010-196-080		CHIP CAPACITOR,0.1-25
C401	87-010-196-080		CHIP CAPACITOR,0.1-25
C407	87-010-322-080		C-CAP,S 100P-50 CH
C410	87-010-196-080		CHIP CAPACITOR,0.1-25
C417	87-010-322-080		C-CAP,S 100P-50 CH
C601	87-010-196-080		CHIP CAPACITOR,0.1-25
C602	87-010-186-080		CAP,CHIP 4700P
C603	87-010-112-040		CAP,E 100-16
C604	87-010-405-040		CAP,E 10-50
C605	87-010-546-040		CAP,E 0.33-50
C606	87-010-320-080		CHIP CAP 68P
C607	87-010-197-080		CAP, CHIP 0.01 DM
C678	87-010-196-080		CHIP CAPACITOR,0.1-25
C679	87-010-178-080		CHIP CAP 1000P<U>
C679	87-010-196-080		CHIP CAPACITOR,0.1-25<LH>
C680	87-010-196-080		CHIP CAPACITOR,0.1-25
C701	87-010-981-040		CAP,E 22-35 5L SRE
C801	87-012-145-080		C-CAP,S 270P-50 CH
C802	87-010-176-080		C-CAP,S 680P-50 SL
C803	87-010-187-080		CAP CHIP S5600P
C804	87-010-213-080		C-CAP,S 0.015-50 B
C806	87-010-071-040		CAP,E 1-50 M 5L SRE
C807	87-010-196-080		CHIP CAPACITOR,0.1-25
C809	87-012-155-080		C-CAP 180P-50CH
C810	87-010-561-040		CAP,E 100-16 GAS
C811	87-015-682-040		CAP,E 22-16 7L
C812	87-010-060-040		CAP,E 100-16
C821	87-010-197-080		CAP, CHIP 0.01 DM

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C822	87-015-819-080		CAPACITOR,0.01
C823	87-010-197-080		CAP, CHIP 0.01 DM
C833	87-010-322-080		C-CAP,S 100P-50 CH
C901	87-012-157-080		C-CAP,S 330P-50 CH
C902	87-010-176-080		C-CAP,S 680P-50 SL
C903	87-010-176-080		C-CAP,S 680P-50 SL
C904	87-010-176-080		C-CAP,S 680P-50 SL
C905	87-010-176-080		C-CAP,S 680P-50 SL
C906	87-010-176-080		C-CAP,S 680P-50 SL
C907	87-010-176-080		C-CAP,S 680P-50 SL
C908	87-010-176-080		C-CAP,S 680P-50 SL
C909	87-010-176-080		C-CAP,S 680P-50 SL
C910	87-010-176-080		C-CAP,S 680P-50 SL
C911	87-010-176-080		C-CAP,S 680P-50 SL
C912	87-010-176-080		C-CAP,S 680P-50 SL
C913	87-010-176-080		C-CAP,S 680P-50 SL
C970	87-010-318-080		C-CAP,S 47P-50 J CH<U>
C971	87-010-318-080		C-CAP,S 47P-50 J CH<U>
CN101	87-099-720-010		CONN,30P TYK-B(P)
CN102	87-099-032-010		CONN,15P 6216 H
CN302	87-A60-078-010		CONN,09P H 9604S-09F
CN501	87-099-201-010		CONN,8P 6216 H
CN502	87-A60-059-010		CONN,08P V 9604S-08C
CN701	87-099-750-010		CONN,15P V 9604SC
FL101	8Z-NF3-611-010		FL,BJ680GK-ZNF3
J601	87-A60-651-010		JACK,3.5MONO
J602	87-A60-651-010		JACK,3.5MONO
L101	87-A50-333-010		COIL,OSC 9.43MHZ
L601	87-005-847-080		COIL,2.2UH CECS
L801	87-A50-093-010		COIL,CLOCK 5.76MHZ
LED101	87-A40-589-040		LED,SLR-56VCT31 RED
LED421	87-070-278-010		LED,SLZ-738A-24-S
LED422	87-070-290-010		LED,SLZ 936-30-S
LED423	87-070-278-010		LED,SLZ-738A-24-S
LED424	87-070-278-010		LED,SLZ-738A-24-S
LED425	87-070-290-010		LED,SLZ 936-30-S
LED426	87-070-278-010		LED,SLZ-738A-24-S
LED440	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED441	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED442	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED443	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED444	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED445	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED446	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED447	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED448	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED449	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED451	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED452	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED453	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED454	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED455	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED456	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED461	87-A40-317-080		LED,SLR-342VCT31 RED
LED462	87-A40-317-080		LED,SLR-342VCT31 RED
LED463	87-A40-317-080		LED,SLR-342VCT31 RED
LED464	87-A40-317-080		LED,SLR-342VCT31 RED
LED465	87-A40-317-080		LED,SLR-342VCT31 RED
S201	87-A90-095-080		SW,TACT EVQ11G04M
S211	87-A90-095-080		SW,TACT EVQ11G04M
S212	87-A90-095-080		SW,TACT EVQ11G04M
S213	87-A90-095-080		SW,TACT EVQ11G04M
S214	87-A90-095-080		SW,TACT EVQ11G04M
S215	87-A90-095-080		SW,TACT EVQ11G04M
S216	87-A90-095-080		SW,TACT EVQ11G04M
S217	87-A90-095-080		SW,TACT EVQ11G04M
S218	87-A90-095-080		SW,TACT EVQ11G04M
S219	87-A90-095-080		SW,TACT EVQ11G04M
S220	87-A90-095-080		SW,TACT EVQ11G04M
S221	87-A90-095-080		SW,TACT EVQ11G04M
S222	87-A90-095-080		SW,TACT EVQ11G04M
S223	87-A90-095-080		SW,TACT EVQ11G04M
S224	87-A90-095-080		SW,TACT EVQ11G04M
S225	87-A90-095-080		SW,TACT EVQ11G04M
S231	87-A90-095-080		SW,TACT EVQ11G04M
S232	87-A90-095-080		SW,TACT EVQ11G04M
S233	87-A90-095-080		SW,TACT EVQ11G04M
S234	87-A90-095-080		SW,TACT EVQ11G04M
S251	87-A90-095-080		SW,TACT EVQ11G04M
S252	87-A90-095-080		SW,TACT EVQ11G04M
S253	87-A90-095-080		SW,TACT EVQ11G04M
S254	87-A90-095-080		SW,TACT EVQ11G04M
S255	87-A90-095-080		SW,TACT EVQ11G04M
S256	87-A90-095-080		SW,TACT EVQ11G04M
S257	87-A90-095-080		SW,TACT EVQ11G04M
S258	87-A90-095-080		SW,TACT EVQ11G04M
S259	87-A90-095-080		SW,TACT EVQ11G04M
S263	87-A90-095-080		SW,TACT EVQ11G04M
SW101	87-A90-535-010		SW,RTRY EC16B24304
TUNER C.B			
C701	87-010-381-080		CAP, ELECT 330-16V
C702	87-010-404-080		CAP, ELECT 4.7-50V
C703	87-012-286-080		CAP, U 0.01-25
C704	87-012-286-080		CAP, U 0.01-25
C705	87-A10-592-080		C-CAP,S 0.015-50 J B
C706	87-A10-592-080		C-CAP,S 0.015-50 J B
C709	87-012-195-080		C-CAP,U 100P-50CH
C711	87-010-260-080		CAP,ELECT 47-25V
C712	87-010-831-080		C-CAP,U,0.1-16F
C714	87-012-286-080		CAP, U 0.01-25
C717	87-012-286-080		CAP, U 0.01-25
C718	87-012-179-080		C-CAP,U 20P-50 CH
C719	87-012-286-080		CAP, U 0.01-25
C720	87-012-195-080		C-CAP,U 100P-50CH
C721	87-012-176-080		CAP 15P
C722	87-012-176-080		CAP 15P
C723	87-012-274-080		CHIP CAP,U 1000P-50B
C725	87-012-274-080		CHIP CAP,U 1000P-50B
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-248-080		CAP, ELECT 220-10V
C729	87-012-274-080		CHIP CAP,U 1000P-50B
C731	87-012-286-080		CAP, U 0.01-25
C733	87-010-987-080		C-CAP,S 1500P-50 CH
C734	87-010-987-080		C-CAP,S 1500P-50 CH
C735	87-010-987-080		C-CAP,S 1500P-50 CH
C736	87-010-987-080		C-CAP,S 1500P-50 CH
C737	87-A10-592-080		C-CAP,S 0.015-50 J B
C738	87-A10-592-080		C-CAP,S 0.015-50 J B
C751	87-012-365-080		C-CAP,S 0.027-25VBK
C752	87-012-365-080		C-CAP,S 0.027-25VBK
C756	87-012-286-080		CAP, U 0.01-25
C757	87-012-188-080		C-CAP,U 47P-50 CH
C758	87-012-167-080		C-CAP,U 5P-50 CH
C763	87-010-829-080		CAP, U 0.047-16
C764	87-012-337-080		C-CAP,U 56P-50 CH
C765	87-012-286-080		CAP, U 0.01-25
C768	87-012-286-080		CAP, U 0.01-25
C769	87-010-260-080		CAP, ELECT 47-25V
C770	87-010-829-080		CAP, U 0.047-16
C771	87-010-383-080		CAP, ELECT 33-25V
C772	87-010-829-080		CAP, U 0.047-16
C773	87-010-196-080		CHIP CAPACITOR,0.1-25
C774	87-010-263-080		CAP, ELECT 100-10V
C775	87-010-404-080		CAP, ELECT 4.7-50V
C776	87-012-286-080		CAP, U 0.01-25
C777	87-010-400-080		CAP, ELECT 0.47-50V
C778	87-010-401-080		CAP, ELECT 1-50V
C779	87-010-401-080		CAP, ELECT 1-50V

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C780	87-010-196-080		CHIP CAPACITOR,0.1-25
C781	87-010-405-080		CAP, ELECT 10-50V
C782	87-010-405-080		CAP, ELECT 10-50V
C783	87-012-286-080		CAP, U 0.01-25
C784	87-012-286-080		CAP, U 0.01-25
C785	87-010-401-080		CAP, ELECT 1-50V
C786	87-010-401-080		CAP, ELECT 1-50V
C789	87-012-275-080		C-CAP,U 1200P-50 B
C790	87-012-275-080		C-CAP,U 1200P-50 B
C791	87-010-405-080		CAP, ELECT 10-50V
C793	87-012-273-080		C-CAP,U 820P-50 B
C794	87-010-406-080		CAP, ELECT 22-50
C795	87-010-596-080		CAP, S 0.047-16
C796	87-010-403-080		CAP, ELECT 3.3-50V
C799	87-010-829-080		CAP, U 0.047-16
C812	87-012-286-080		CAP, U 0.01-25
C820	87-010-260-080		CAP, ELECT 47-25V
C821	87-012-286-080		CAP, U 0.01-25
C822	87-012-286-080		CAP, U 0.01-25
C823	87-012-286-080		CAP, U 0.01-25
C828	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-196-080		CHIP CAPACITOR,0.1-25
C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C961	87-012-170-080		C-CAP,U 8P-50 CH
C963	87-010-196-080		CHIP CAPACITOR,0.1-25
CF801	87-008-261-010		FILTER, SFE10.7MA5-A
CF802	87-008-261-010		FILTER, SFE10.7MA5-A
CN701	87-A60-700-010		CONN,13P H GRY TUC-P13X-C1
FFE801	A8-8ZA-190-030		8ZA-1 FEUNM
J801	87-A60-702-010		TERMINAL,ANT4P CJ-9036
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	87-A90-733-010		FLTR,PCFAZH-450 (TOK)
L981	87-NF4-650-010		COIL,AM PACK 4N(TOK)
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309

5CH AMP C.B

C203	87-010-546-080		CAP, ELECT 0.33-50V
C204	87-010-546-080		CAP, ELECT 0.33-50V
C205	87-010-186-080		CAP,CHIP 4700P
C206	87-010-186-080		CAP,CHIP 4700P
C207	87-010-405-080		CAP, ELECT 10-50V
C208	87-010-405-080		CAP, ELECT 10-50V
C209	87-010-322-080		C-CAP,S 100P-50 CH
C210	87-010-322-080		C-CAP,S 100P-50 CH
C211	87-010-260-080		CAP, ELECT 47-25V
C212	87-010-260-080		CAP, ELECT 47-25V
C213	87-A10-516-080		C-CAP,S 100P-200 J CH
C214	87-A10-516-080		C-CAP,S 100P-200 J CH
C219	87-A10-712-080		C-CAP,S 0.22-50 ZF
C220	87-A10-712-080		C-CAP,S 0.22-50 ZF
C221	87-010-186-080		CAP,CHIP 4700P
C222	87-010-186-080		CAP,CHIP 4700P
C299	87-010-197-080		CAP, CHIP 0.01 DM
C303	87-010-404-080		CAP, ELECT 4.7-50V
C304	87-010-404-080		CAP, ELECT 4.7-50V
C305	87-010-189-080		CHIP CAPACITOR 8200P
C306	87-010-189-080		CHIP CAPACITOR 8200P
C307	87-010-408-080		CAP, ELECT 47-50V
C308	87-010-408-080		CAP, ELECT 47-50V
C309	87-010-322-080		C-CAP,S 100P-50 CH
C310	87-010-322-080		C-CAP,S 100P-50 CH
C311	87-A10-946-080		C-CAP,S 220P-100 J CH
C312	87-A10-946-080		C-CAP,S 220P-100 J CH
C313	87-010-260-080		CAP, ELECT 47-25V
C314	87-010-260-080		CAP, ELECT 47-25V
C319	87-A10-712-080		C-CAP,S 0.22-50 ZF
C320	87-A10-712-080		C-CAP,S 0.22-50 ZF
C321	87-010-186-080		CAP,CHIP 4700P
C322	87-010-186-080		CAP,CHIP 4700P
C351	87-010-178-080		C-CAP,S 1000P
C403	87-010-404-080		CAP, ELECT 4.7-50V
C405	87-010-177-080		C-CAP,S 820P-50 SL
C407	87-010-405-080		CAP, ELECT 10-50V
C409	87-010-322-080		C-CAP,S 100P-50 CH
C411	87-A10-946-080		C-CAP,S 220P-100 J CH
C413	87-010-260-080		CAP, ELECT 47-25V
C419	87-A10-712-080		C-CAP,S 0.22-50 Z F
C421	87-010-186-080		CAP,CHIP 4700P
C501	87-016-299-080		CAP,E 10-100 SME
C502	87-012-368-080		C-CAP,S 0.1-50 F
C503	87-016-299-080		CAP,E 10-100 SME
CN101	87-A60-727-010		CONN,13P JL-R
CN102	87-A60-727-010		CONN,13P JL-R
CN104	87-A60-937-010		CONN,2P V VH
R225	87-A00-418-080		RES,M/F 0.15-3W J
R226	87-A00-418-080		RES,M/F 0.15-3W J
R227	87-A00-418-080		RES,M/F 0.15-3W J
R228	87-A00-418-080		RES,M/F 0.15-3W J
R239	87-A00-418-080		RES,M/F 0.15-3W J
R242	87-A00-418-080		RES,M/F 0.15-3W J
R325	87-A00-258-080		RES,M/F 0.22-1W J
R326	87-A00-258-080		RES,M/F 0.22-1W J
R327	87-A00-258-080		RES,M/F 0.22-1W J
R328	87-A00-258-080		RES,M/F 0.22-1W J
R339	87-A00-258-080		RES,M/F 0.22-1W J
R340	87-A00-258-080		RES,M/F 0.22-1W J
TH201	87-A91-042-080		C-THMS,100K 55001
TH202	87-A91-042-080		C-THMS,100K 55001
TH301	87-A91-042-080		C-THMS,100K 55001
TH302	87-A91-042-080		C-THMS,100K 55001

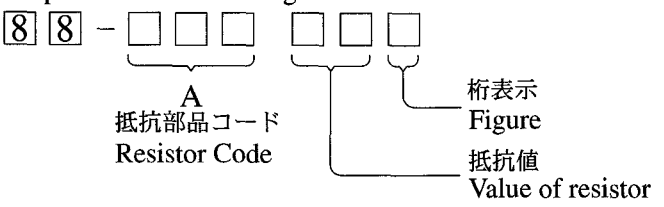
PT C.B

C101	87-010-387-080		CAP,E 470-25 SME
C103	87-A11-148-080		CAP,TC U 0.1-50 Z F
C104	87-A11-148-080		CAP,TC U 0.1-50 Z F
C105	87-A11-148-080		CAP,TC U 0.1-50 Z F
C106	87-A11-148-080		CAP,TC U 0.1-50 Z F
C107	87-A11-148-080		CAP,TC U 0.1-50 Z F
C108	87-A11-148-080		CAP,TC U 0.1-50 Z F
C109	87-A11-148-080		CAP,TC U 0.1-50 Z F
C110	87-A11-148-080		CAP,TC U 0.1-50 Z F
C111	87-010-917-090		CAP,E 3300-50 M SMG
C112	87-010-917-090		CAP,E 3300-50 M SMG
C113	87-A10-231-090		CAP,E 3300-80
C114	87-A10-231-090		CAP,E 3300-80
C116	87-010-403-080		CAP, ELECT 3.3-50V
CN1	87-A60-851-010		CONN,9P V VH
CN103	87-099-043-010		CONN 2P EH
⚠ F101	87-035-458-010		FUSE,4A 250V T W/C<LH>
⚠ F101	87-035-493-010		FUSE,8A 125V<U>
⚠ F102	87-035-458-010		FUSE,4A 250V T W/C<LH>
⚠ FC100	87-033-213-080		FUSE CLAMP,PFC5000
⚠ FC101	87-033-213-080		FUSE CLAMP,PFC5000
⚠ FC102	87-033-213-080		FUSE CLAMP,PFC5000<LH>
⚠ FC103	87-033-213-080		FUSE CLAMP,PFC5000<LH>
⚠ PR101	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR101	87-026-682-080		PROTECTOR,10A 60V491<LH>
⚠ PR102	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR102	87-026-682-080		PROTECTOR,10A 60V491<LH>
⚠ PR103	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR103	87-026-682-080		PROTECTOR,10A 60V491<LH>
⚠ PR104	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR104	87-026-682-080		PROTECTOR,10A 60V491<LH>
⚠ PR105	87-A90-210-080		FUSE,7A 125V 251<U>
⚠ PR105	87-A90-195-080		PROTECTOR 7A 125V 49<LH>
⚠ PR106	87-A90-210-080		FUSE,7A 125V 251<U>
⚠ PR106	87-A90-195-080		PROTECTOR 7A 125V 49<LH>

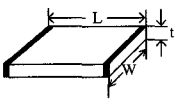
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠ PR107	87-035-495-080		FUSE,3/4A 125V D/U/C<U>
⚠ PR107	87-A90-757-080		PROTECTOR,0.75A 60V<LH>
⚠ PR108	87-A91-276-080		FUSE,125MA 125V F 251<U>
⚠ PT1	8Z-NFP-602-010		PT,LH ZNF-23<LH>
⚠ PT1	8Z-NFP-601-010		PT,U ZNF-23<U>
⚠ PT2	8Z-NF8-663-010		PT,SUB ZNF-8(H)<LH>
⚠ PT2	8Z-NF8-661-010		PT,SUB ZNF-8(U)<U>
⚠ RY101	87-A91-281-010		RELAY,AC DC 12VOSA<LH>
⚠ RY102	87-A90-976-010		RELAY,AC12V SDT-S-112LMR<U>
⚠ SW101	87-A90-165-010		SW,SL 1-2-3 SWS2301<LH>
⚠ T101	87-A60-317-010		TERMINAL, 1P MSC
⚠ T102	87-A60-317-010		TERMINAL, 1P MSC
KEY C.B			
CN301	87-099-202-010		CONN,9P 6216 H
LED311	87-A40-317-080		LED,SLR-342VCT31 RED
LED312	87-A40-317-080		LED,SLR-342VCT31 RED
LED313	87-A40-317-080		LED,SLR-342VCT31 RED
LED314	87-A40-317-080		LED,SLR-342VCT31 RED
LED315	87-A40-317-080		LED,SLR-342VCT31 RED
LED331	87-A40-563-010		LED,SEL6515C-LF62 PGRN
LED332	87-A40-563-010		LED,SEL6515C-LF62 PGRN
LED333	87-A40-563-010		LED,SEL6515C-LF62 PGRN
LED351	87-A40-563-010		LED,SEL6515C-LF62 PGRN
LED352	87-A40-563-010		LED,SEL6515C-LF62 PGRN
LED353	87-A40-563-010		LED,SEL6515C-LF62 PGRN
S310	87-A90-095-080		SW,TACT EVQ11G04M
S311	87-A90-095-080		SW,TACT EVQ11G04M
S312	87-A90-095-080		SW,TACT EVQ11G04M
S313	87-A90-095-080		SW,TACT EVQ11G04M
S314	87-A90-095-080		SW,TACT EVQ11G04M
S315	87-A90-095-080		SW,TACT EVQ11G04M
S316	87-A90-095-080		SW,TACT EVQ11G04M
S317	87-A90-095-080		SW,TACT EVQ11G04M
S318	87-A90-095-080		SW,TACT EVQ11G04M
S319	87-A90-095-080		SW,TACT EVQ11G04M
S320	87-A90-095-080		SW,TACT EVQ11G04M
JOG C.B			
C501	87-010-197-080		CAP, CHIP 0.01 DM
C502	87-010-182-080		C-CAP,S 2200P-50 B
C531	87-010-196-080		CHIP CAPACITOR,0.1-25
C532	87-010-196-080		CHIP CAPACITOR,0.1-25
CN501	87-099-201-010		CONN,8P 6216 H
LED521	87-A40-640-010		LED,SELU1E10CXM BLUE-EF
LED522	87-A40-640-010		LED,SELU1E10CXM BLUE-EF
S511	87-A90-095-080		SW,TACT EVQ11G04M
S512	87-A90-095-080		SW,TACT EVQ11G04M
S513	87-A90-095-080		SW,TACT EVQ11G04M
S514	87-A90-095-080		SW,TACT EVQ11G04M
S515	87-A90-095-080		SW,TACT EVQ11G04M
S516	87-A90-095-080		SW,TACT EVQ11G04M
S517	87-A90-095-080		SW,TACT EVQ11G04M
S518	87-A90-095-080		SW,TACT EVQ11G04M
S519	87-A90-095-080		SW,TACT EVQ11G04M
S520	87-A90-095-080		SW,TACT EVQ11G04M
SW501	87-A91-111-010		SW,RTRY EC12E12404-20MM
GEQ C.B			
C901	87-010-402-080		CAP, ELECT 2.2-50V
C902	87-010-402-080		CAP, ELECT 2.2-50V
C903	87-010-404-080		CAP, ELECT 4.7-50V
C904	87-010-404-080		CAP, ELECT 4.7-50V
C905	87-010-404-080		CAP, ELECT 4.7-50V
C907	87-016-669-080		C-CAP,S 0.1-25 K B
C908	87-016-669-080		C-CAP,S 0.1-25 K B
C909	87-016-460-080		C-CAP,S 0.22-16 B
C910	87-016-460-080		C-CAP,S 0.22-16 B
C911	87-012-365-080		C-CAP,S 0.027-25VBK
C912	87-012-365-080		C-CAP,S 0.027-25VBK
C913	87-010-956-080		CHIP-CAP,S 0.068-25B
C914	87-010-956-080		CHIP-CAP,S 0.068-25B
C915	87-010-197-080		CAP, CHIP 0.01 DM
C916	87-010-197-080		CAP, CHIP 0.01 DM
C917	87-010-198-080		CAP, CHIP 0.022
C918	87-010-198-080		CAP, CHIP 0.022
C919	87-010-183-080		C-CAP,S 2700P-50 B
C920	87-010-183-080		C-CAP,S 2700P-50 B
C921	87-010-188-080		CAP,CHIP 6800P
C922	87-010-188-080		CAP,CHIP 6800P
C923	87-010-178-080		CHIP CAP 1000P
C924	87-010-178-080		CHIP CAP 1000P
C925	87-010-182-080		C-CAP,S 2200P-50 B
C926	87-010-182-080		C-CAP,S 2200P-50 B
C927	87-010-112-080		CAP, ELECT 100-16V
C928	87-010-196-080		CHIP CAPACITOR,0.1-25
C929	87-010-322-080		C-CAP,S 100P-50 CH
C930	87-010-322-080		C-CAP,S 100P-50 CH
C931	87-010-322-080		C-CAP,S 100P-50 CH
PN901	87-A60-546-010		CONN,11P H GRY TUC-P11X-C1
RELAY C.B			
CN101	87-A60-963-010		CONN,3P H TXX-H03P-G2<U>
CN102	87-A60-963-010		CONN,3P H TXX-H03P-G2<U>
RY101	87-A90-143-010		RELAY,DG12D2-OS(M)<U>
DECK C.B			
CON105	87-099-756-019		CONN, 15P 9604 S F
SFR1	87-024-581-019		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-410		SOL ASSY, 27
SOL2	82-ZM1-618-410		SOL ASSY, 27
SW1	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW2	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW3	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW4	87-036-110-010		SW,MICRO SPPB62
SW5	87-036-110-010		SW,MICRO SPPB62
SW6	87-036-110-010		SW,MICRO SPPB62
SW8	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW9	87-A90-248-019		SW,MICRO ESE11SH2CXQ
W001	82-ZM3-601-019		RBN,CORD,4P-75
HEAD-1 C.B			
HEAD-2 C.B			
CON351	87-NF6-616-010		CONN ASSY,8P-RPB

Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	±5%	CJ		1.0	0.5	0.35	104
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

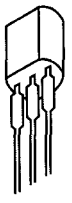
TRANSISTOR ILLUSTRATION

E C B

KTA1266GR
KTC3198GR
KTC3199GR

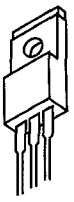
E C B

CC5551



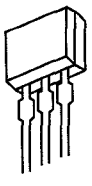
E C B

CSA1585BC



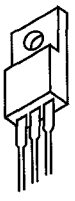
B C E

2SB1344
2SB1370
2SB1588
2SD2025
2SD2439



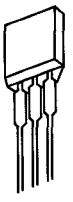
E C B

2SC4115



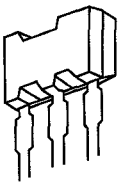
G D S

2SK3053



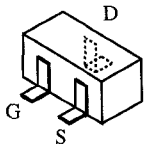
E C B

DTC114ES

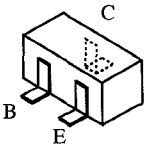


E C B

2SB1237Q



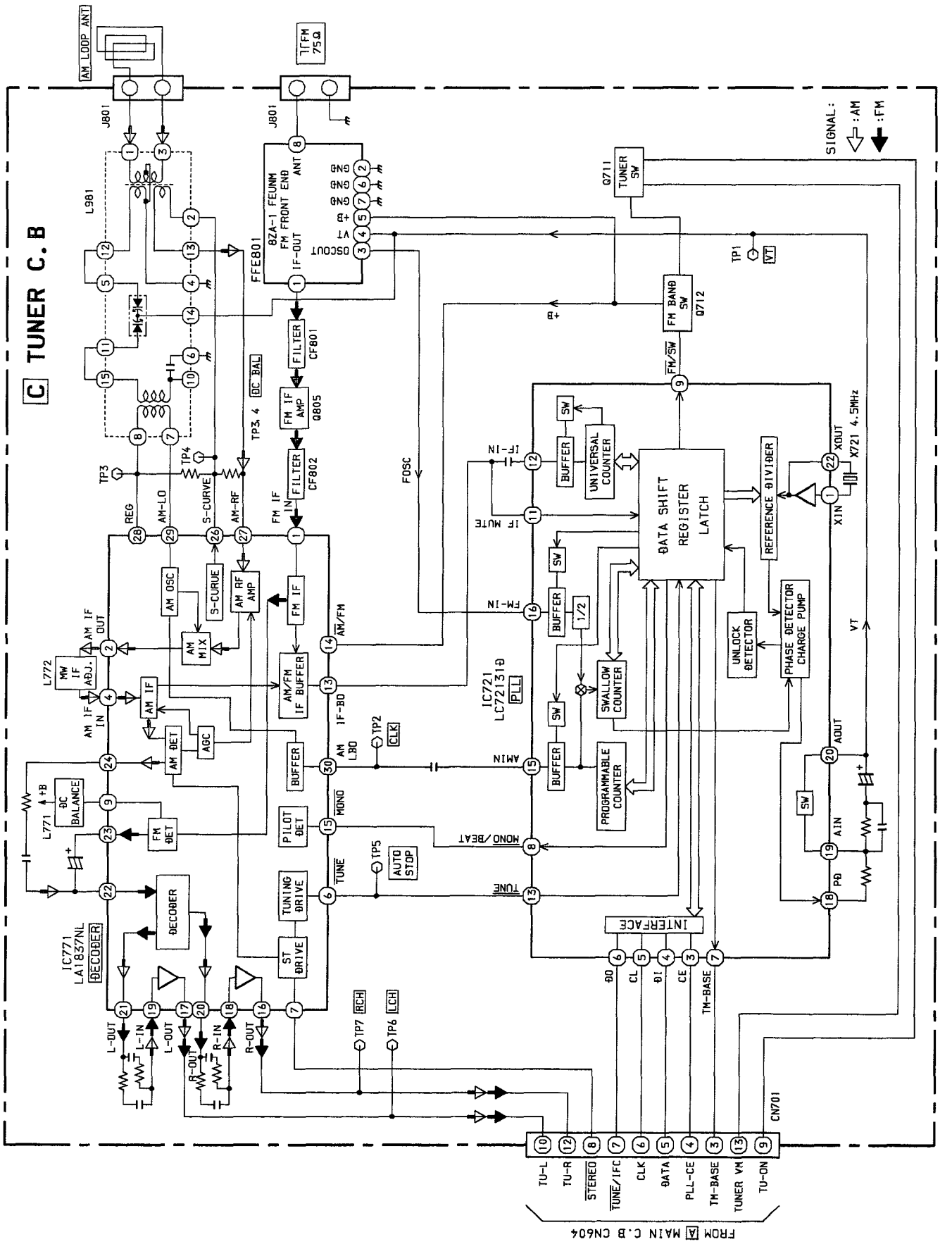
2SK2158

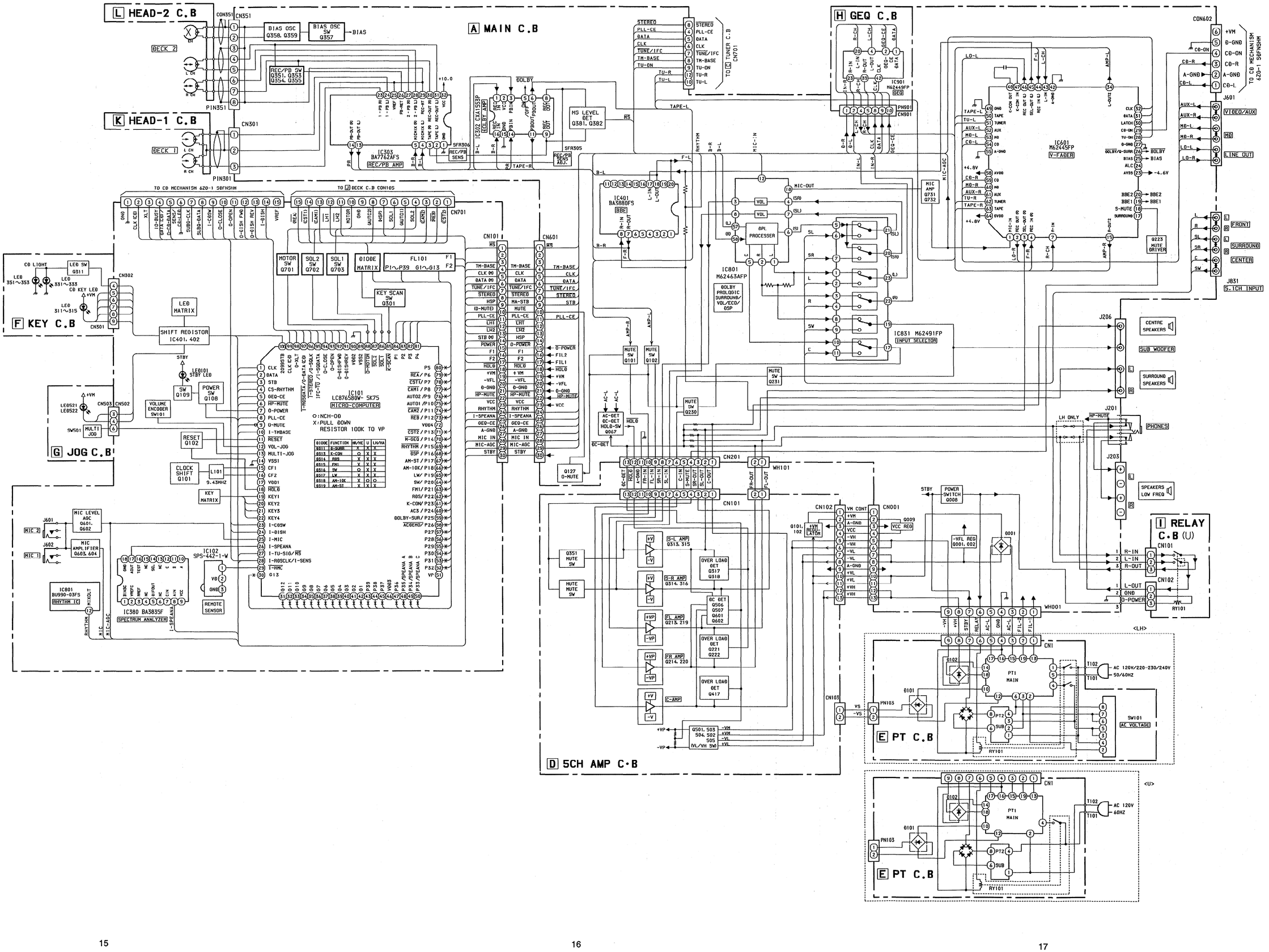


2SA1235F
2SA1298Y
2SA1514K
2SC2714O
2SC3052F
2SD1306E
CMBT5551

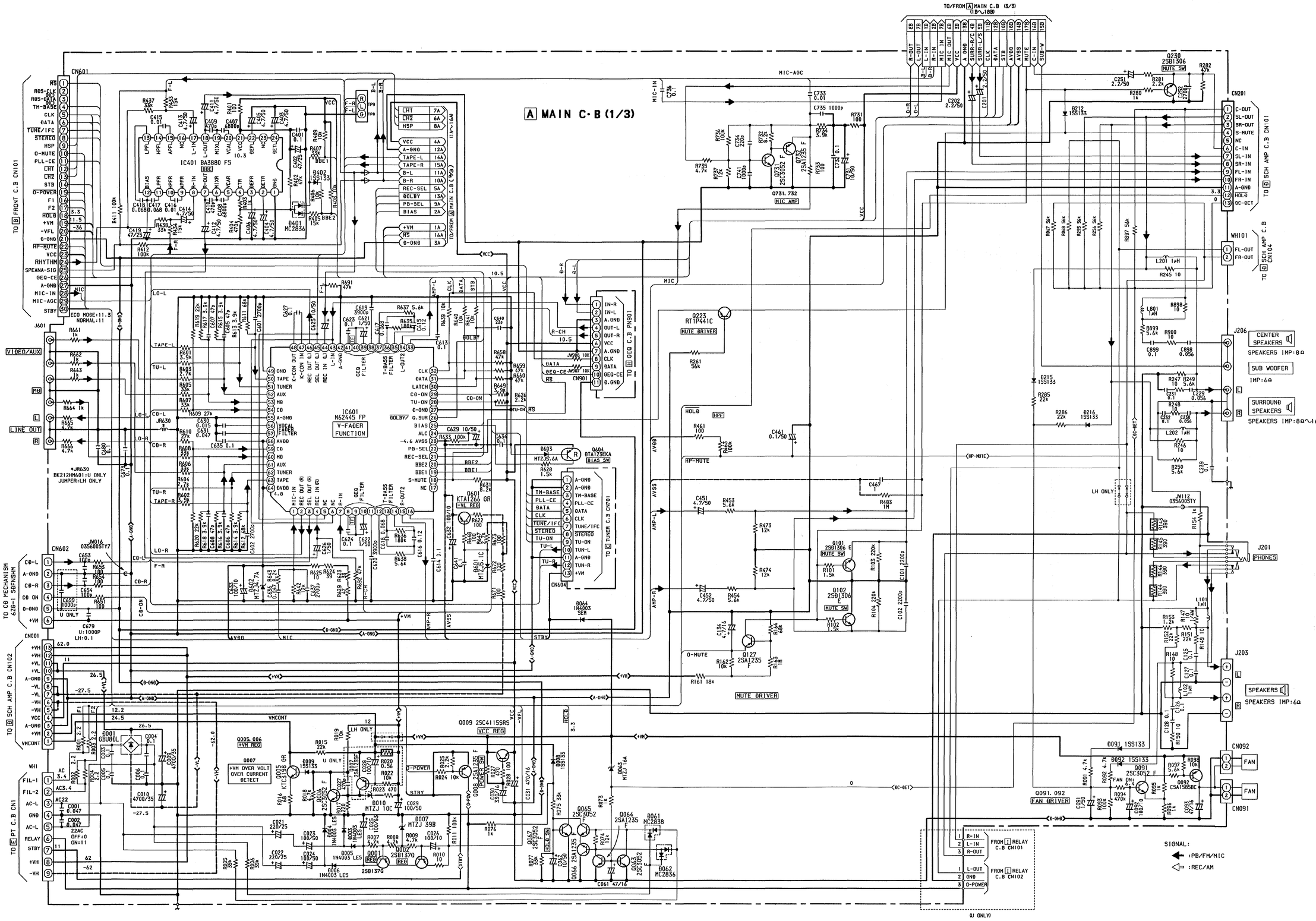
RT1N141C
RT1P141C
RT1P144C
RT1P441C
DTA123EKA
DTA143EKA

BLOCK DIAGRAM – 1 (TUNER)




L HEAD-2 C.B
K HEAD-1 C.B
A MAIN C.B
H GEQ C.B
F KEY C.B
G JOG C.B
D 5CH AMP C·B
E PT C.B
I RELAY C.B (U)
IC101 LC876580W-5K75 MICRO-COMPUTER
IC102 SPS-442-1-W
IC301 BA7742AFS REC/PB AMP
IC302 CXA1553P DOLBY AMP
IC380 BA3835F SPECTRUM ANALYZER
IC401 BA5880FS BBE
IC601 M62445FP V-FADER
IC801 M62463AFP DOLBY PROLOGIC SURROUND/ VOL/ECO/ DSP
IC831 M62491FP INPUT SELECTOR
IC901 M62449FP GEQ
IC801 BU9990-03FS RHYTHM IC
BIAS OSC Q358, Q359
BIAS OSC SW Q357
REC/PB SW Q351, Q353 Q354, Q355
MS LEVEL ADJ Q381, Q382
REC/PB SENS ADJ.
MOTOR SW Q701
SOL2 SW Q702
SOL1 SW Q703
DIODE MATRIX
FL101
KEY SCAN SW Q301
LED MATRIX
SHIFT REGISTOR IC401, 402
LED SW Q311
POWER SW Q108
SW Q109
VOLUME ENCODER SW101
RESET Q102
CLOCK SHIFT Q101
KEY MATRIX
MIC LEVEL AGC Q601, Q602
MIC AMPLIFIER Q603, 604
MUTE SW Q101
MUTE SW Q102
MUTE SW Q230
MUTE SW Q231
Q127 D-MUTE
MIC AMP Q731 Q732
Q223 MUTE DRIVER
POWER SWITCH Q008
VCC REG Q009
-VFL REG Q001, 002
Q001
VOLTAGE REGULATOR Q101, 102
Q351 MUTE SW
MUTE SW
S-L AMP Q313, 315
S-R AMP Q314, 316
FL AMP Q213, 219
FR AMP Q214, 220
C-AMP
OVER LOAD DET Q317 Q318
DC DET Q506 Q507 Q601 Q602
OVER LOAD DET Q221 Q222
OVER LOAD DET Q417
Q501, 503 504, 502 505 (VL/VH SW)
TO C TUNER C.B CN701
TO CD MECHANISM 6Z0-1 SBFNSHM
TO J DECK C.B CON105
J601 VIDEO/AUX MD LINE OUT
J831 5.1CH INPUT
J206 CENTRE SPEAKERS SUB WOOFER SURROUND SPEAKERS
J201 PHONES
J203 SPEAKERS LOW FREQ
FRONT SURROUND CENTER
REMOTE SENSOR
MIC 1 MIC 2
DECK 1 DECK 2
PIN301 PIN351
CN301 CN351
CN302 CN303 CN502 CN501
CN701 CN101 CN601
CN201 CN102 CN001 CN103
WH101 WH001
PN901 CN901
PN105
RY101
SW101 AC VOLTAGE
T101 T102
AC 120V/220-230/240V 50/60HZ
AC 120V 60HZ
<LH>
<U>
BPL PROCESSER
VOLTAGE REGULATOR
DOLBY-SUR/ P25
ACBEHO/ P26
I-REMC
I-RSOCLK/I-SENS
I-MIC
I-DISH
I-CDSW
I-SPEANA
I-TU-SIG/HS
I-TMBASE
O-MUTE
O-POWER
HP-MUTE
MIC-AGC
RHYTHM
MIC
MIXOUT
REMOTE SENSOR

SCHEMATIC DIAGRAM – 1 (MAIN 1/3)



A MAIN C.B

TO C TUNER C.B
CN701
CN604

TO H GEQ C.B
PN901
CN901

FROM L HEAD-2 C.B
CON351
TO CN351

FROM K HEAD-1 C.B
CON301
CN301

TO B FRONT C.B
CN101

J831
5.1 CH INPUT
CENTER
SUB WOOFER
SURROUND
FRONT
FAN
FAN

J601
VIDEO/AUX

CN602
TO C0 MECHANISM
6ZG-1 SDFN6HM

LINE OUT

J206
CENTER SPEAKERS
SPEAKER IMP:8Ω
SUB WOOFER
SPEAKER IMP:6Ω
SURROUND SPEAKERS
SPEAKER IMP:8Ω

J203
SPEAKERS
SPEAKER IMP:6Ω

J201
PHONES

TO E PT C.B
CN1
WHT

CN001
TO D SCH AMP C.B
CN102

TO D SCH AMP C.B
CN104

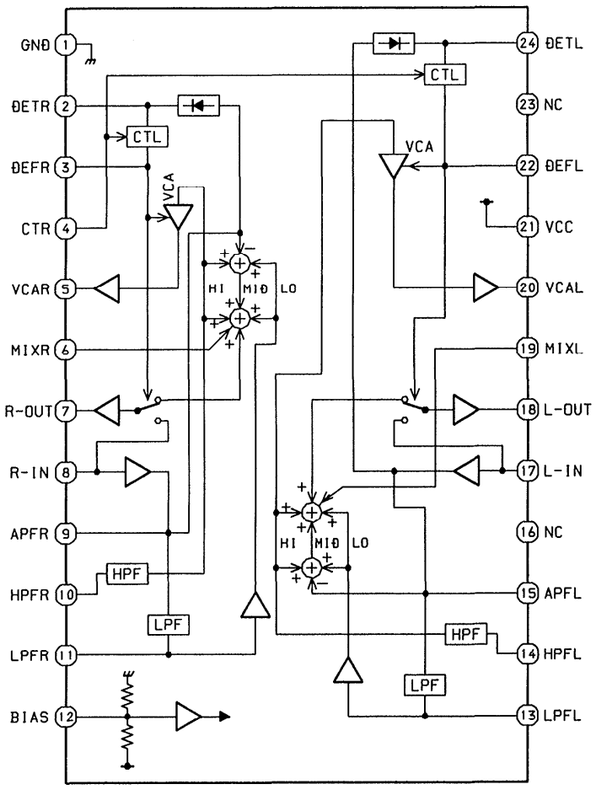
CN201
TO D SCH AMP C.B
CN101

I RELAY C.B (S)

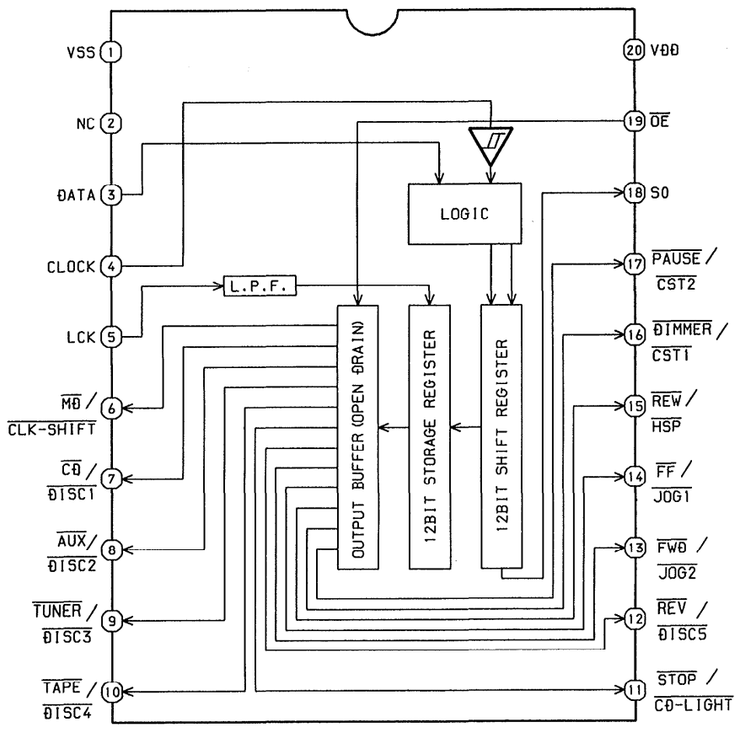
SOLDER
SOLDER
CN102
RY101
CN101
R103

IC BLOCK DIAGRAM – 1

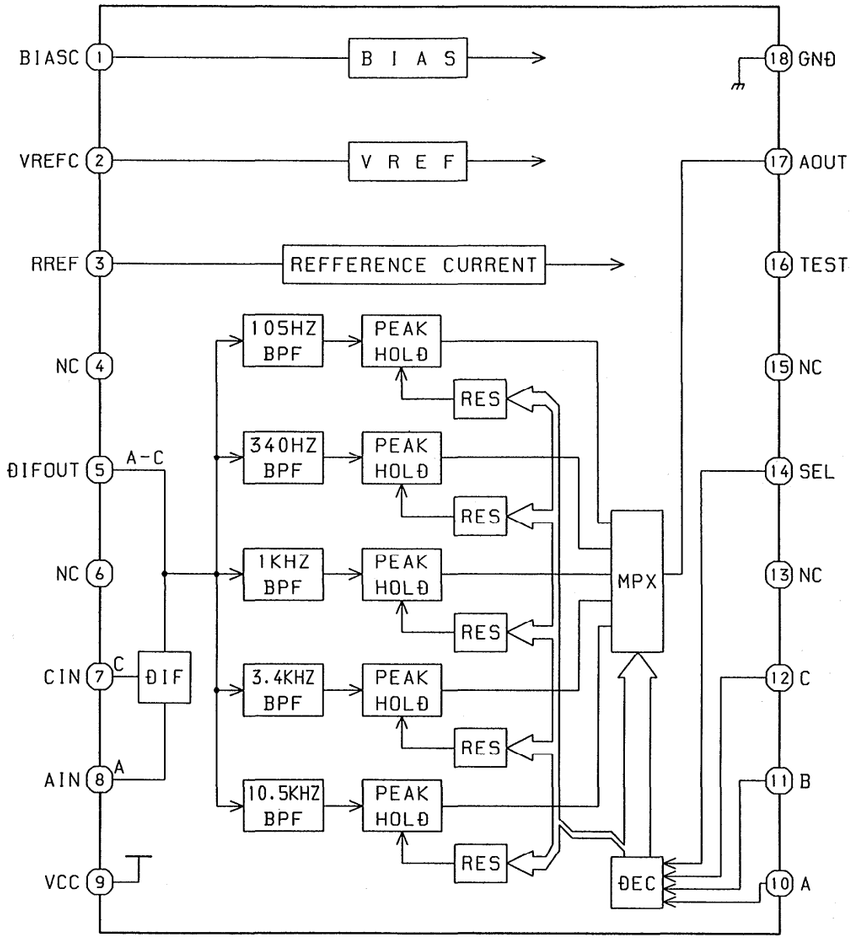
IC, BA3880FS



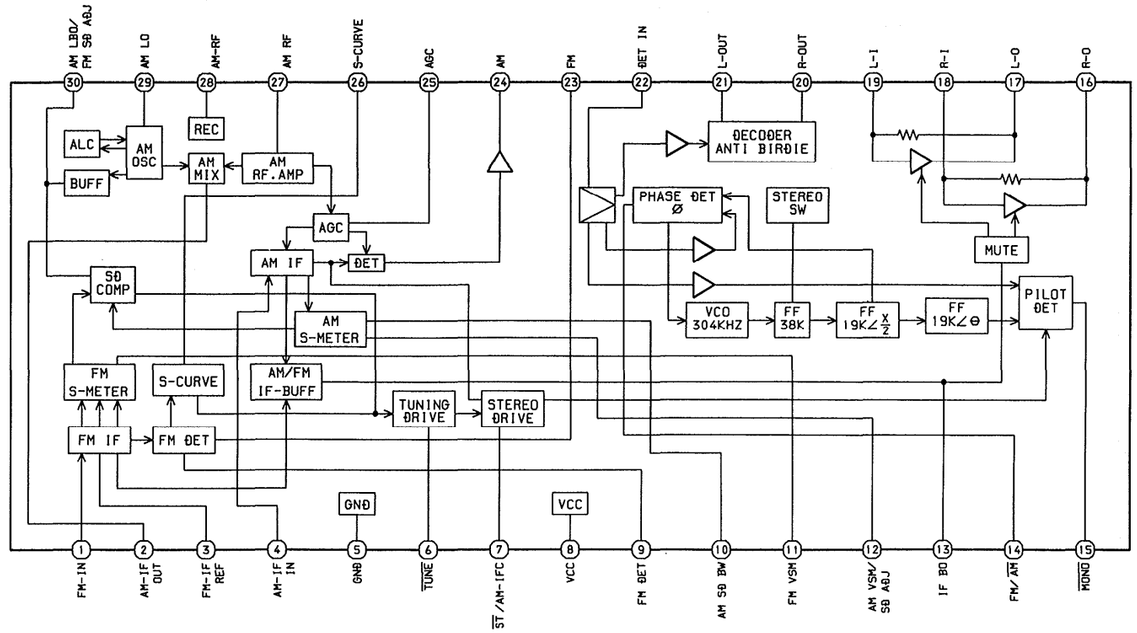
IC, BU2099FV

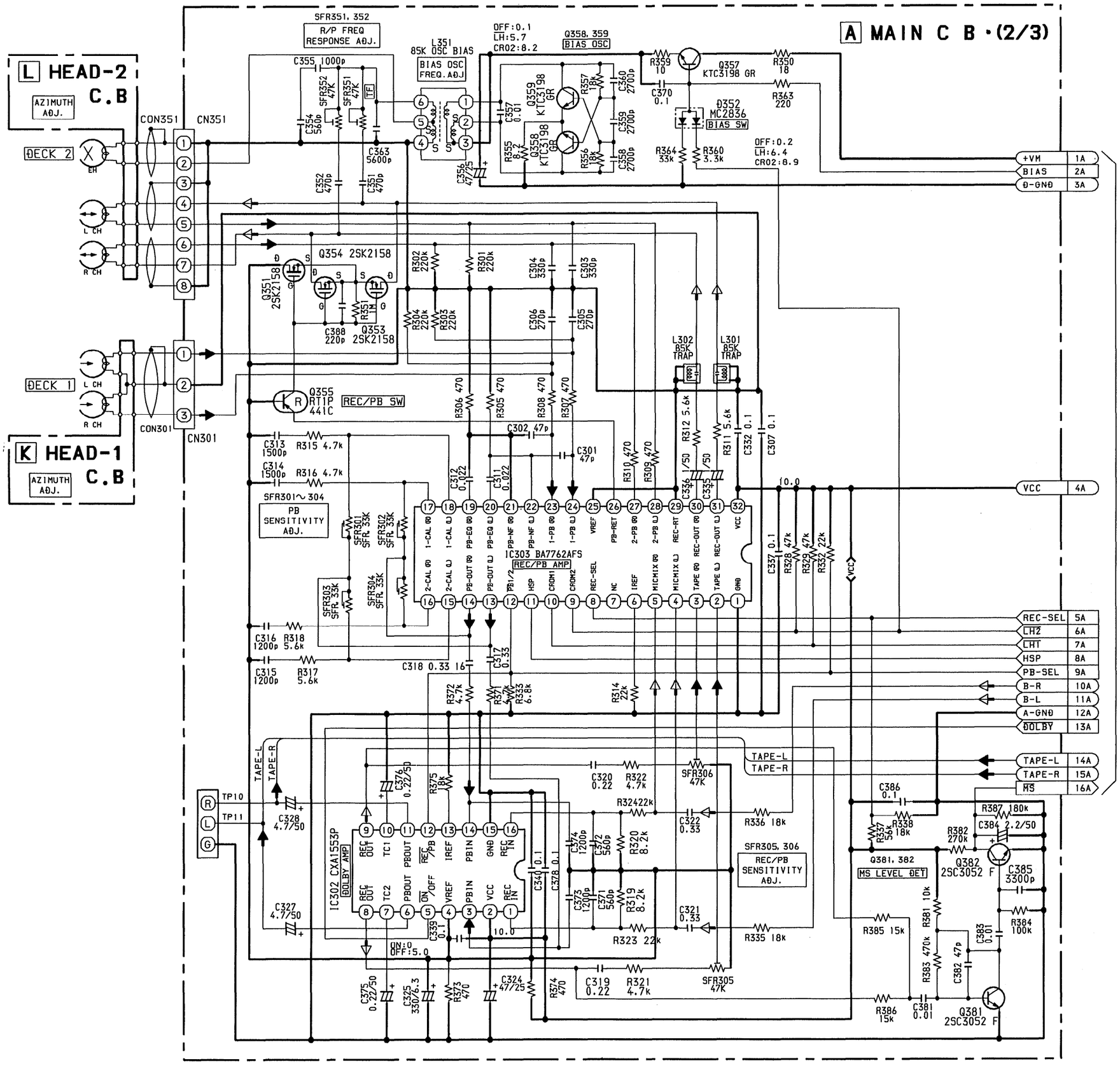


IC, BA3835F



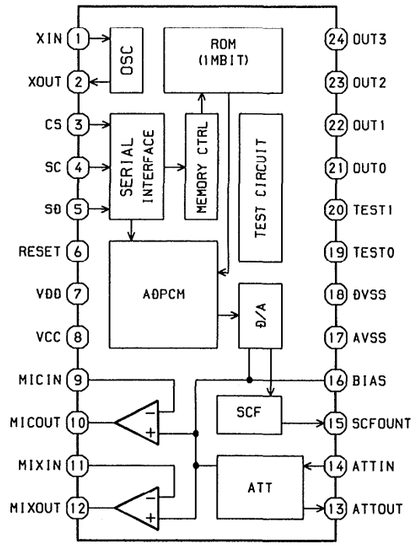
IC, LA1837NL



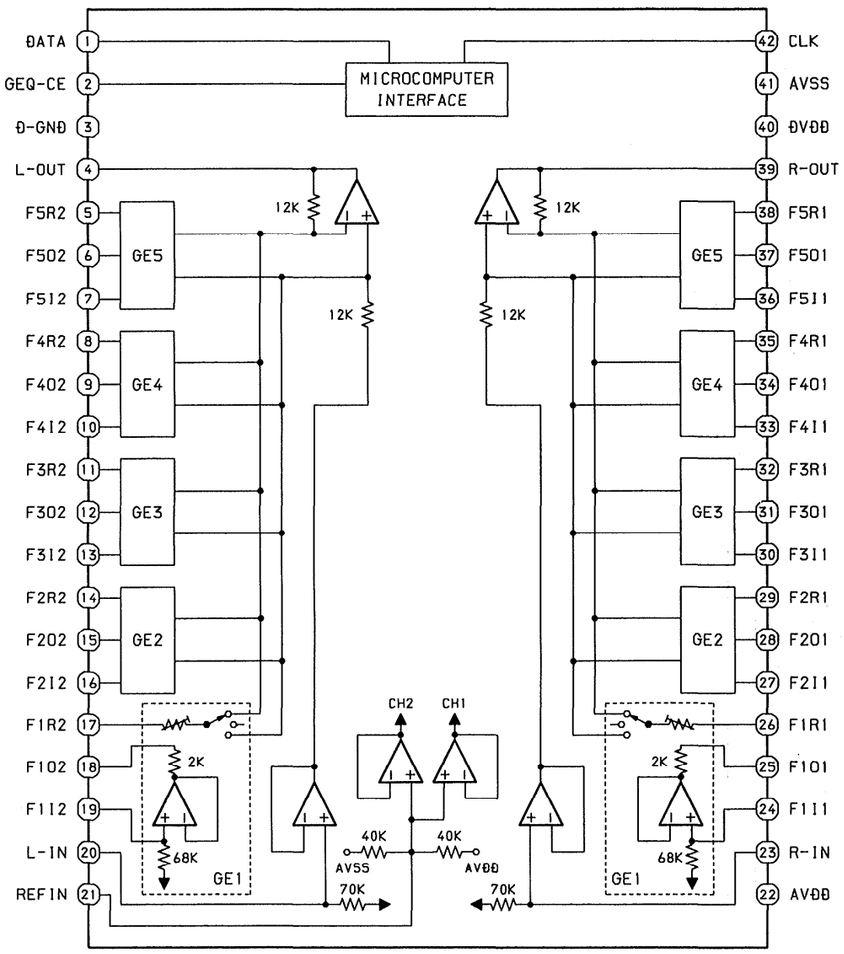

A MAIN C B (2/3)
L HEAD-2 C.B
AZIMUTH ADJ.
K HEAD-1 C.B
AZIMUTH ADJ.
CON351
CN351
CON301
CN301
DECK 2
DECK 1
L CH
R CH
SFR351, 352 R/P FREQ RESPONSE ADJ.
L351 85K OSC BIAS
BIAS OSC FREQ. ADJ
OFF:0.1 LH:5.7 CRO2:8.2
Q358, 359 BIAS OSC
Q357 KTC3198 GR
D352 MC2836 BIAS SW
OFF:0.2 LH:6.4 CRO2:8.9
Q354 2SK2158
Q351 2SK2158
Q353 2SK2158
Q355 RT1P 441C
REC/PB SW
L302 85K TRAP
L301 85K TRAP
IC303 BA7762AFS
REC/PB AMP
SFR301~304 PB SENSITIVITY ADJ.
IC302 CXA1553P
DOLBY AMP
SFR306 47K
SFR305, 306 REC/PB SENSITIVITY ADJ.
Q381, 382 MS LEVEL DET
Q382 2SC3052 F
Q381 2SC3052 F
TAPE-L
TAPE-R
TP10
TP11
ON:0 OFF:5.0
+VM 1A
BIAS 2A
D-GND 3A
VCC 4A
REC-SEL 5A
LH2 6A
LHT 7A
HSP 8A
PB-SEL 9A
B-R 10A
B-L 11A
A-GND 12A
DOLBY 13A
TAPE-L 14A
TAPE-R 15A
MS 16A
TO/FROM A MAIN C.B (1/3) (1A~16A)

IC BLOCK DIAGRAM – 2

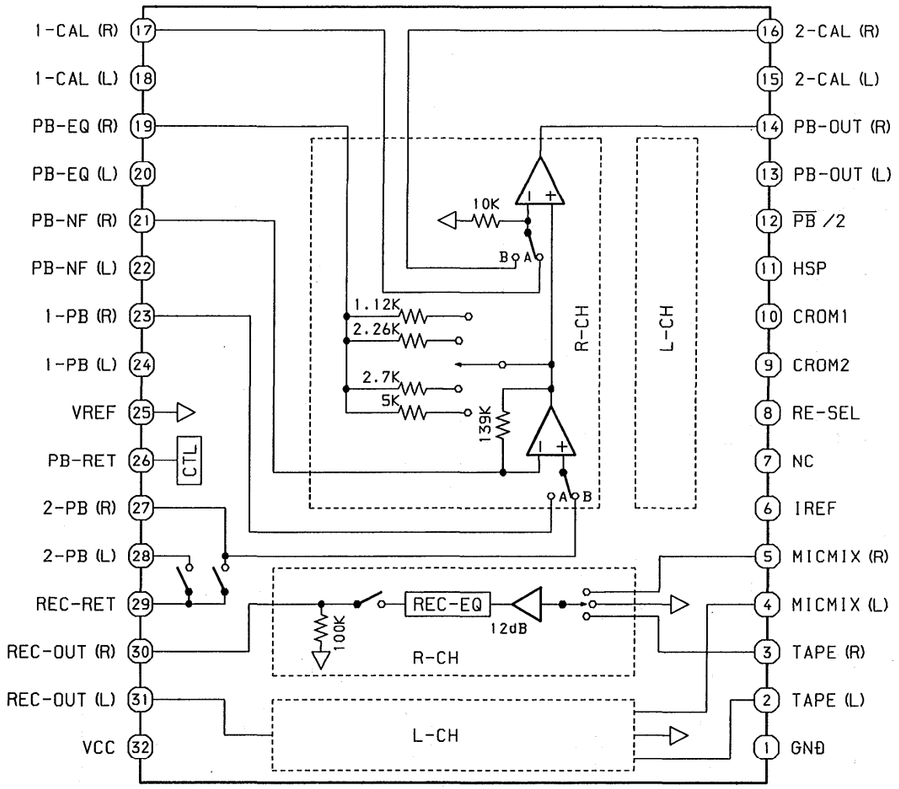
IC, BU9990-03FS



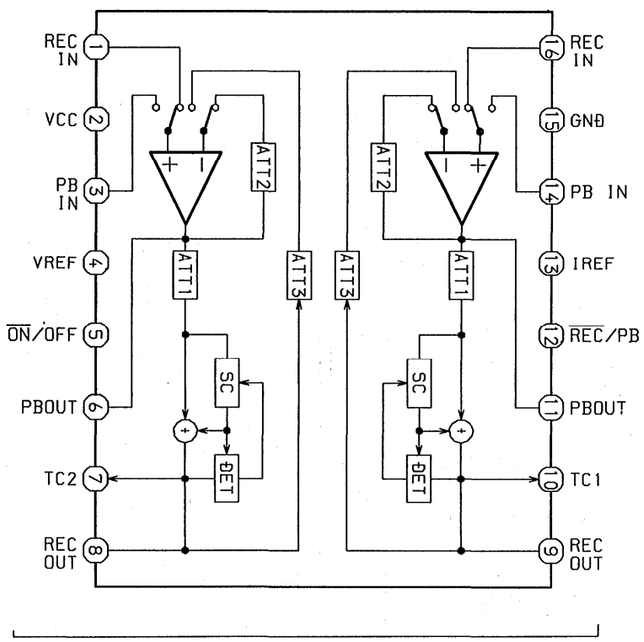
IC, M62449FP

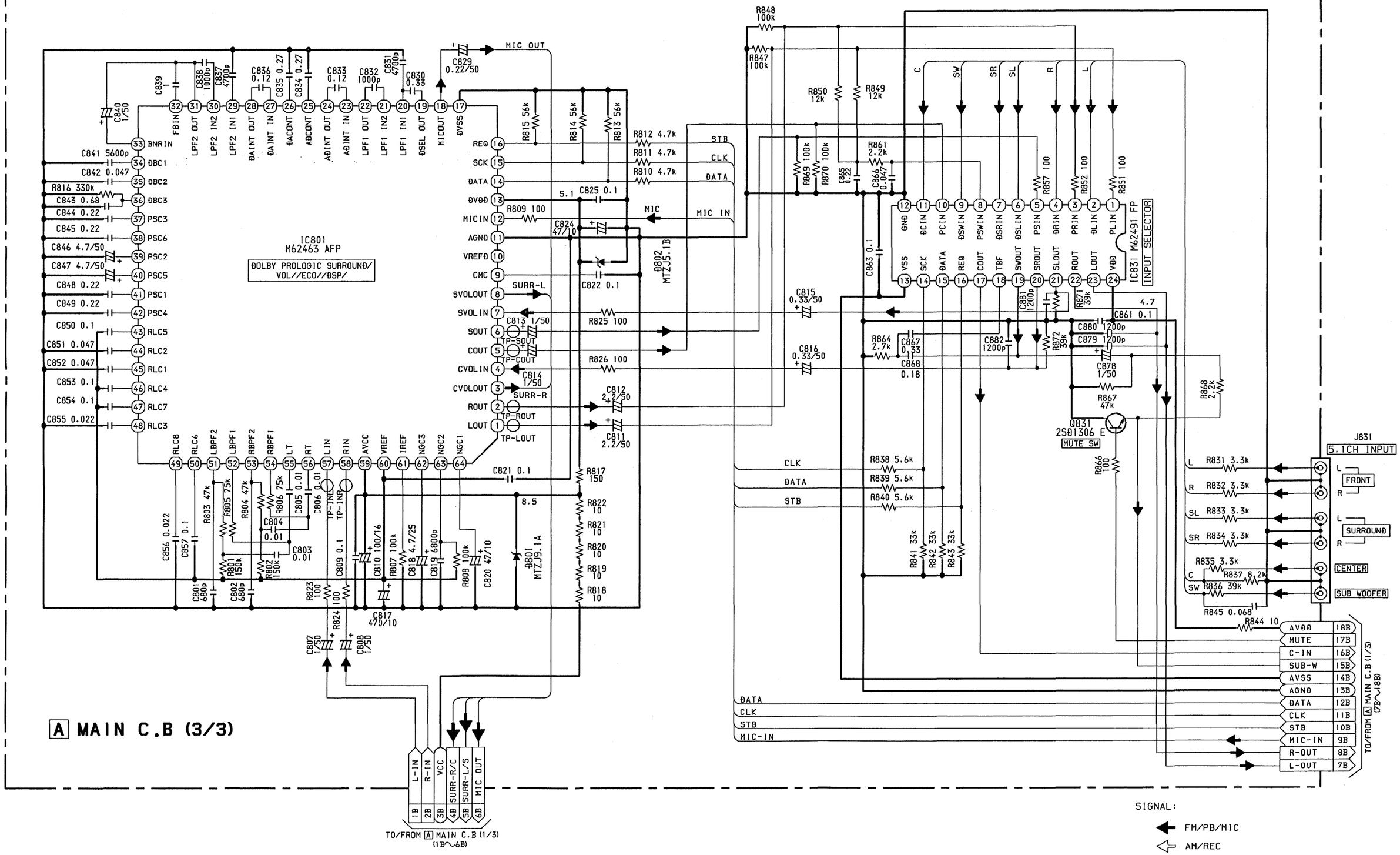


IC, BA7762AFS

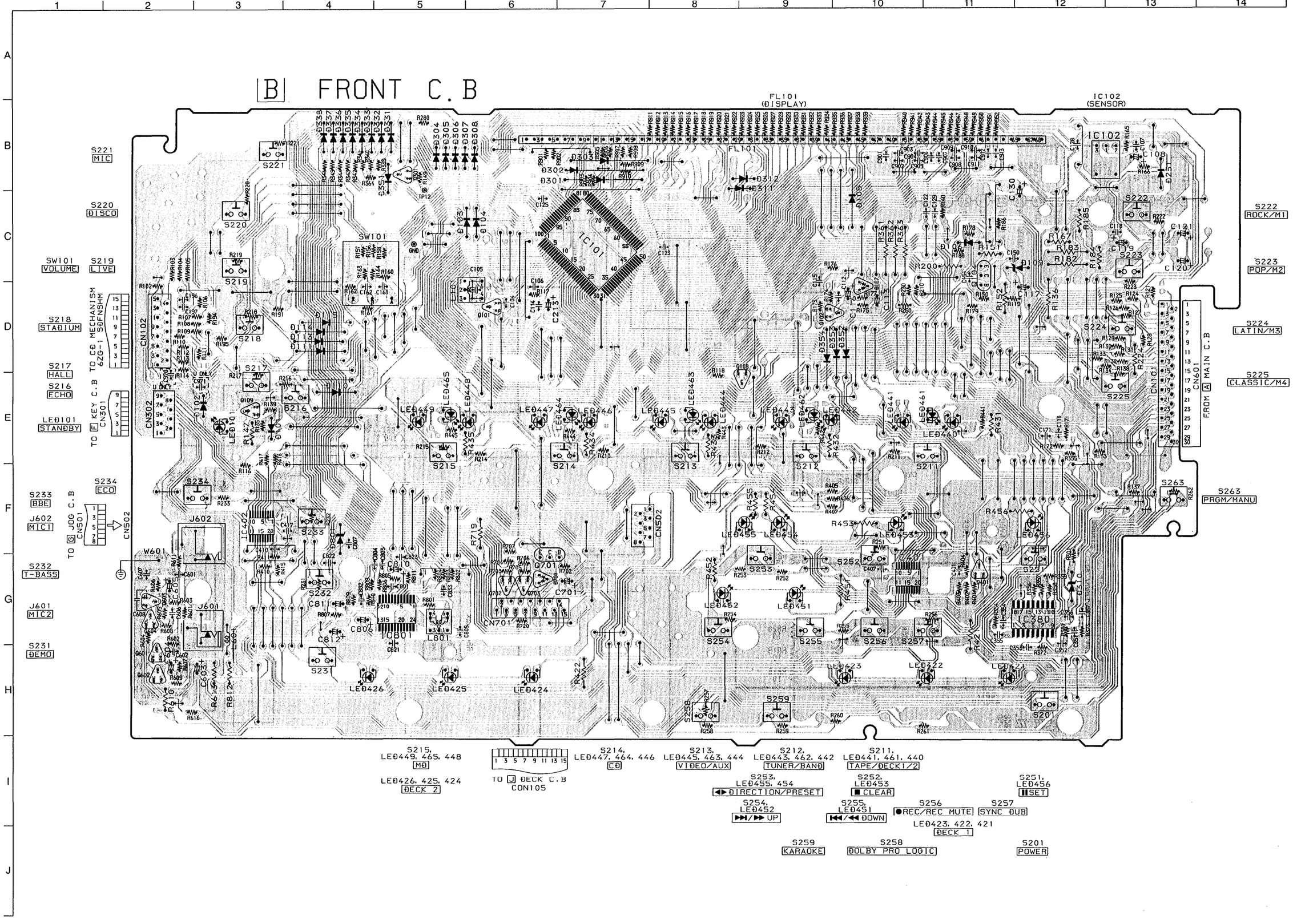


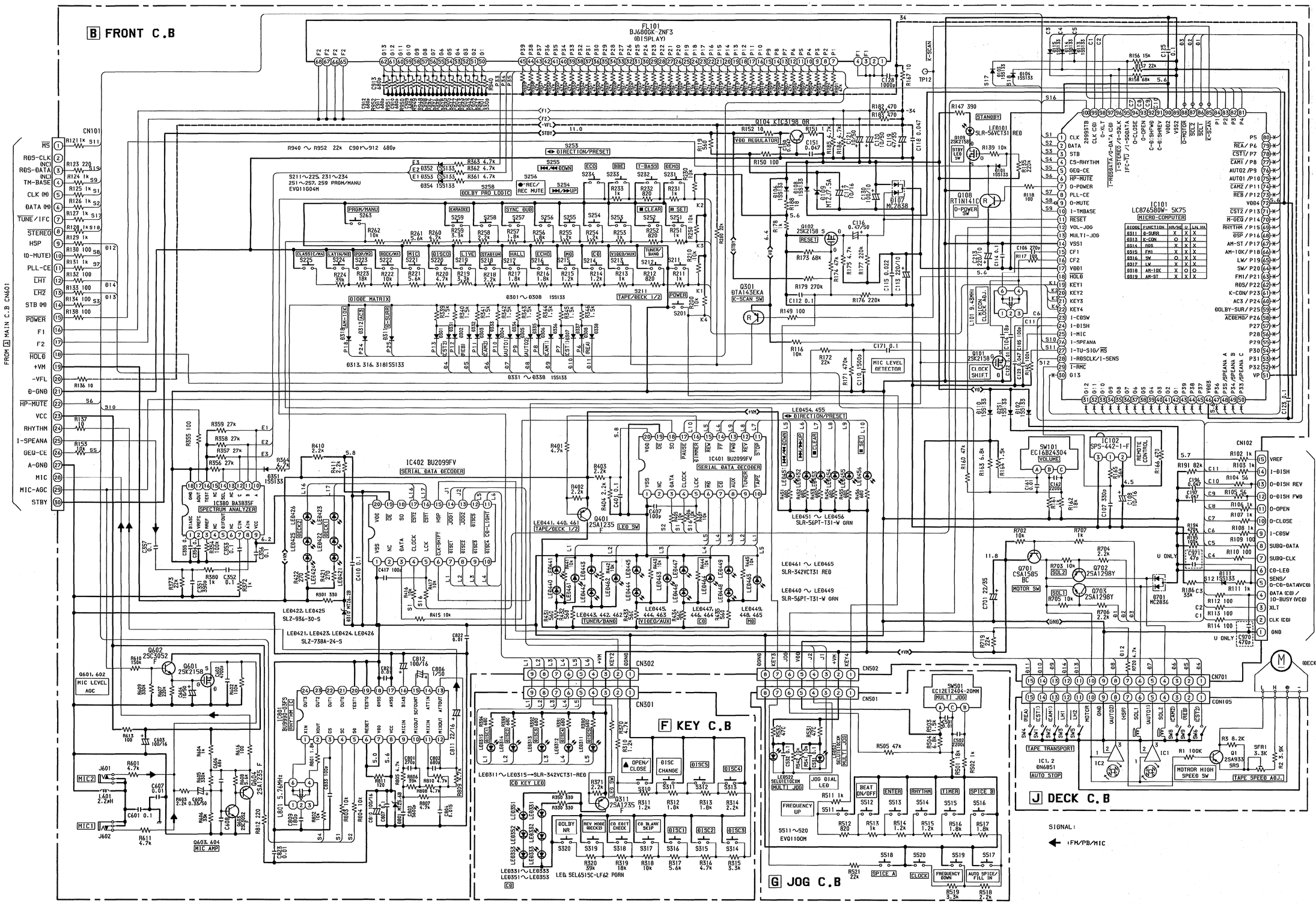
IC, CXA1553P




IC801
M62463 AFP
ÐOLBY PROLOGIC SURROUNÐ/
VOL//ECO//ÐSP/
A MAIN C.B (3/3)
MIC OUT
MIC
MIC IN
STB
CLK
ÐATA
SURR-L
SURR-R
TP-SOUT
TP-COUT
TP-ROUT
TP-LOUT
TP-INL
TP-INR
IC831 M62491 FP
INPUT SELECTOR
Q831
2SÐ1306 E
MUTE SW
J831
5.1CH INPUT
FRONT
SURROUNÐ
CENTER
SUB WOOFER
TO/FROM A MAIN C.B (1/3)
(1B~6B)
TO/FROM A MAIN C.B (1/3)
(7B~18B)
SIGNAL:
FM/PB/MIC
AM/REC

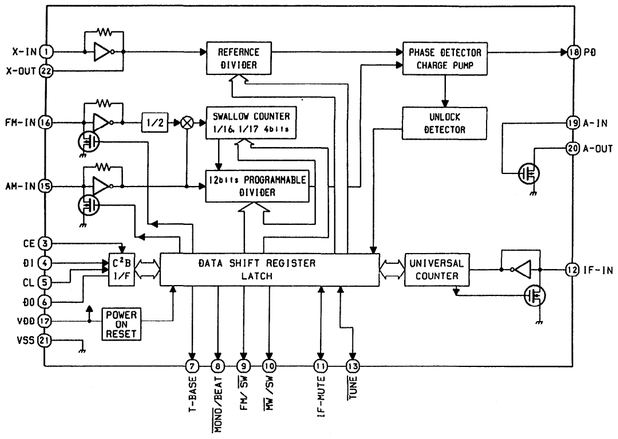
[B] FRONT C.B


FL101 (DISPLAY)
IC102 (SENSOR)
S221 MIC
S220 DISCO
SW101 VOLUME
S219 LIVE
S218 STADIUM
S217 HALL
S216 ECHO
LED101 STANDBY
TO E KEY C.B CN301
TO CD MECHANISM 6ZG-1 56PNSHM
S234 ECO
S233 BBE
J602 MIC1
S232 T-BASS
J601 MIC2
S231 DEMO
TO G JOG C.B CN501
CN502
S222 ROCK/M1
S223 POP/M2
S224 LATIN/M3
S225 CLASSIC/M4
FROM A MAIN C.B CN601
S263 PRGM/MANU
S215, LED449, 465, 448 MD
LED426, 425, 424 DECK 2
TO J DECK C.B CON105
S214, LED447, 464, 446 CD
S213, LED445, 463, 444 VIDEO/AUX
S212, LED443, 462, 442 TUNER/BAND
S211, LED441, 461, 440 TAPE/DECK1/2
S253, LED455, 454 DIRECTION/PRESET
S252, LED453 CLEAR
S251, LED456 SET
S254, LED452 UP
S255, LED451 DOWN
S256 REC/REC MUTE
S257 SYNC DUB
LED423, 422, 421 DECK 1
S259 KARAOKE
S258 DOLBY PRO LOGIC
S201 POWER

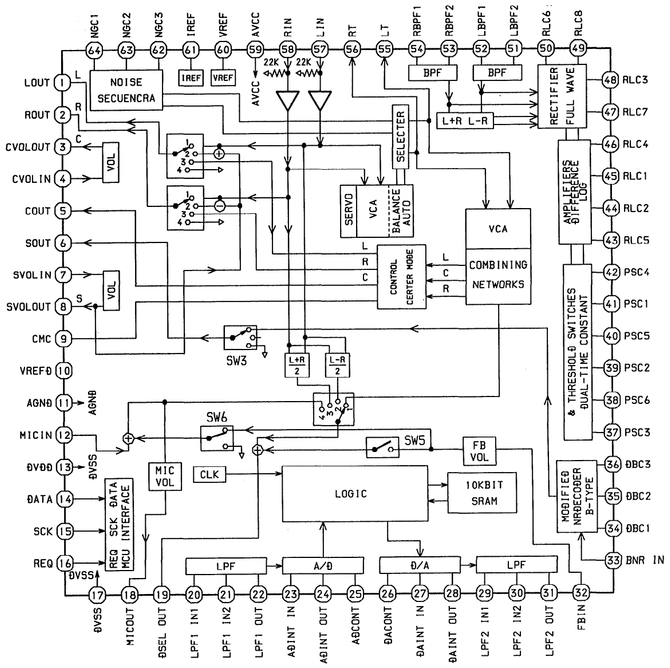

B FRONT C.B
FL101
BJ6800K-ZNF3
(DISPLAY)
CN101
FROM A MAIN C.B CN601
MS
RDS-CLK (NC)
RDS-DATA (NC)
TM-BASE
CLK (M)
DATA (M)
TUNE/IFC
STEREO
HSP
(O-MUTE)
PLL-CE
LHT
LH2
STB (M)
POWER
F1
F2
HOLD
+VM
-VFL
Θ-GND
HP-MUTE
VCC
RHYTHM
I-SPEANA
GEQ-CE
A-GND
MIC
MIC-AGC
STBY
IC380 BA3835F
SPECTRUM ANALYZER
IC402 BU2099FV
SERIAL DATA DECODER
IC401 BU2099FV
SERIAL DATA DECODER
IC301 BU9853KS-E2
RHYTHM IC
IC101
LC876580W-5K75
MICRO-COMPUTER
Q108 RT1N141C
Q102 2SK2158 S
Q101 2SK2158 G
Q301 DTA143EKA
K-SCAN SW
Q104 KTC3198 GR
V00 REGULATOR
Q109 2SK2158 B
Q601, 602
MIC LEVEL AGC
Q603, 604
MIC AMP
Q401 2SA1235 F
LED SW
Q701 CSA1585 BC
MOTOR SW
Q702 2SA1298Y
Q703 2SA1298Y
Q107 MC2836
Q701 MC2836
IC102 SPS-442-1-F
REMOTE CONTROL
SW101 EC16B24304
VOLUME
SW501 EC12E12404-20MM
MULTI JOG
L101 9.43MHz
MICON CLOCK ADJ.
L601 2.2mH
J601
MIC2
J602
MIC1
L801 5.76MHz
CN302
CN301
CN502
CN501
CN701
CON105
CN102
F KEY C.B
G JOG C.B
J DECK C.B
M1 (DECK MOTOR)
TO CD MECHANISM 6629-I SBPMSHM
K-SCAN
STANDBY
LED SW
MIC LEVEL DETECTOR
CLOCK SHIFT
FREQUENCY UP
JOG DIAL LED
BEAT ON/OFF
ENTER
RHYTHM
TIMER
SPICE B
SPICE A
CLOCK
FREQUENCY DOWN
AUTO SPICE/FILL IN
TAPE TRANSPORT
AUTO STOP
MOTOR HIGH SPEED SW
TAPE SPEED ADJ.
SIGNAL:
:FM/PB/MIC

IC BLOCK DIAGRAM – 3

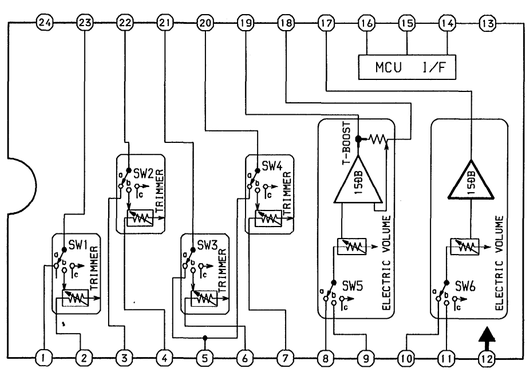
IC, LC72131D



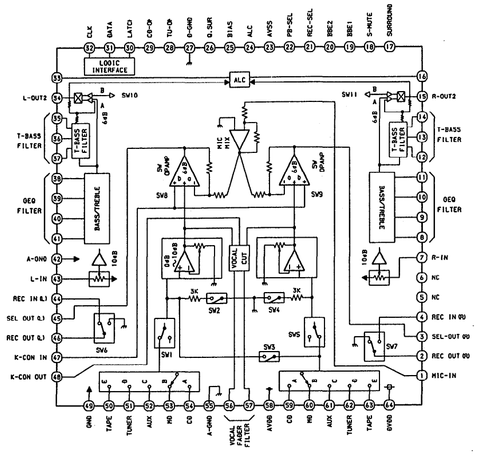
IC, M62463AFP



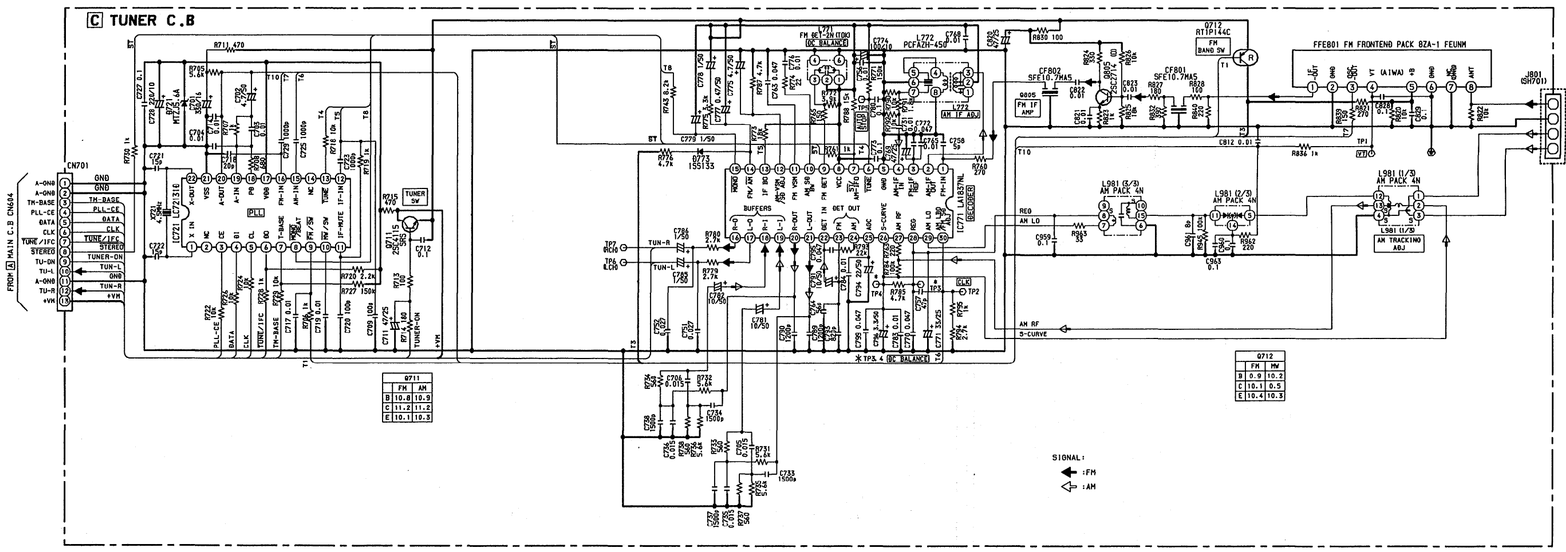
IC, M62491FP



IC, M62445AFP



SCHEMATIC DIAGRAM – 5 (TUNER)



C TUNER C.B

FROM A MAIN C.B CN604

13 11 9 7 5 3 1

CN701

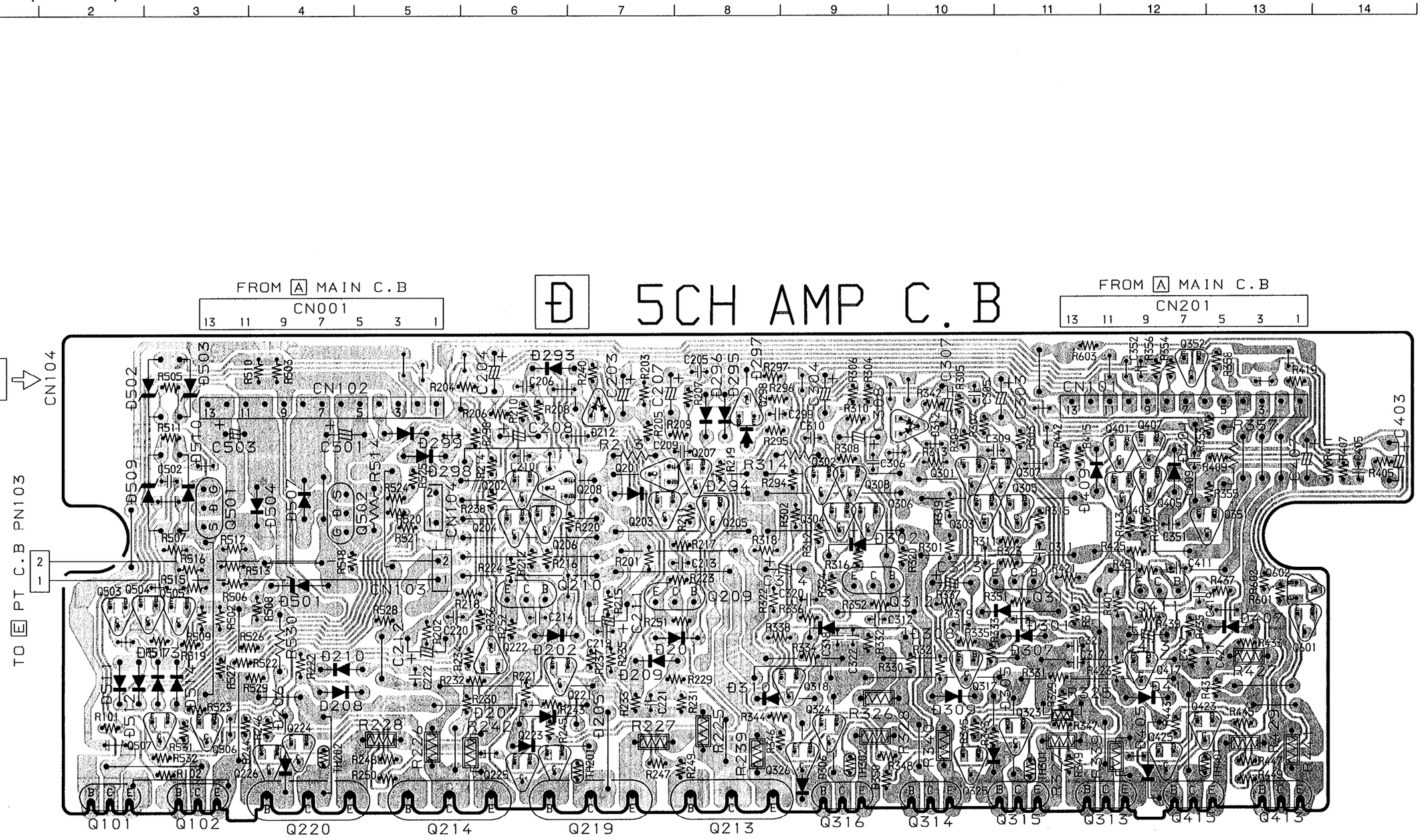
J801 (SH701)

J801 ANTENNA

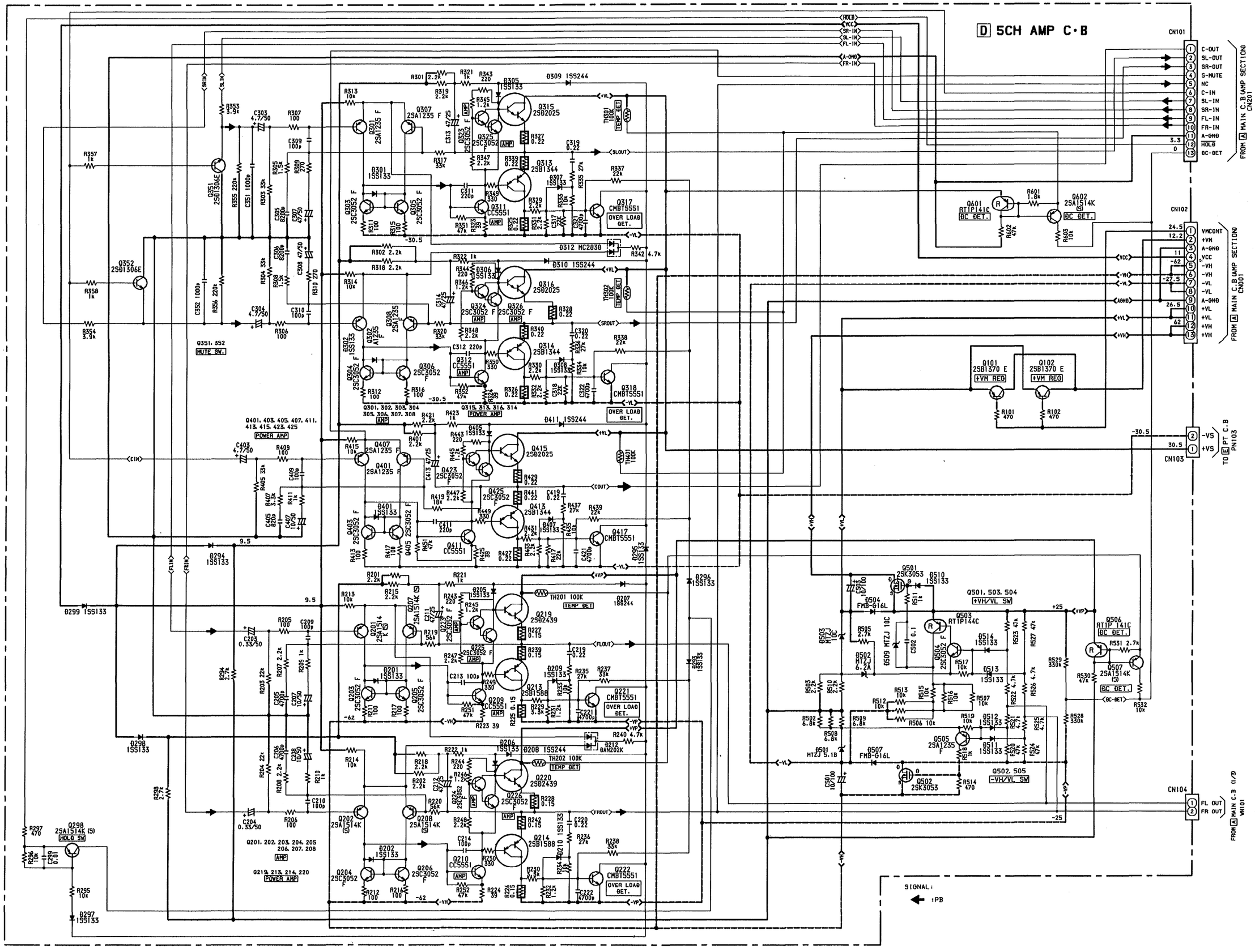
AM LOOP

FM 75Ω

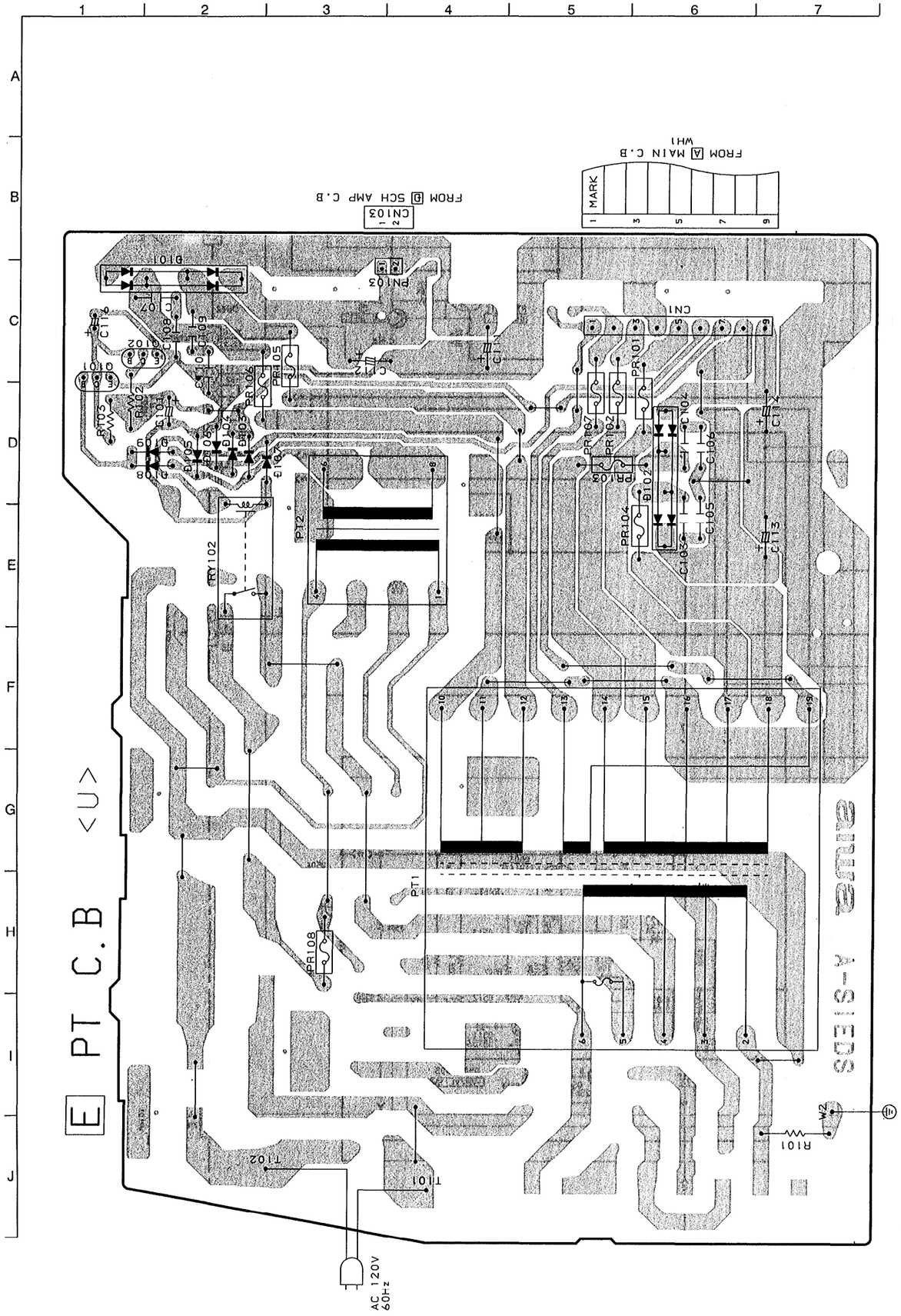
Ð 5CH AMP C.B


FROM A MAIN C.B
CN001
FROM A MAIN C.B
CN201
FROM A MAIN C.B
WH101
CN104
TO E PT C.B PN103
CN102
CN103
CN101
Q101
Q102
Q220
Q214
Q219
Q213
Q316
Q314
Q315
Q313
Q415
Q413

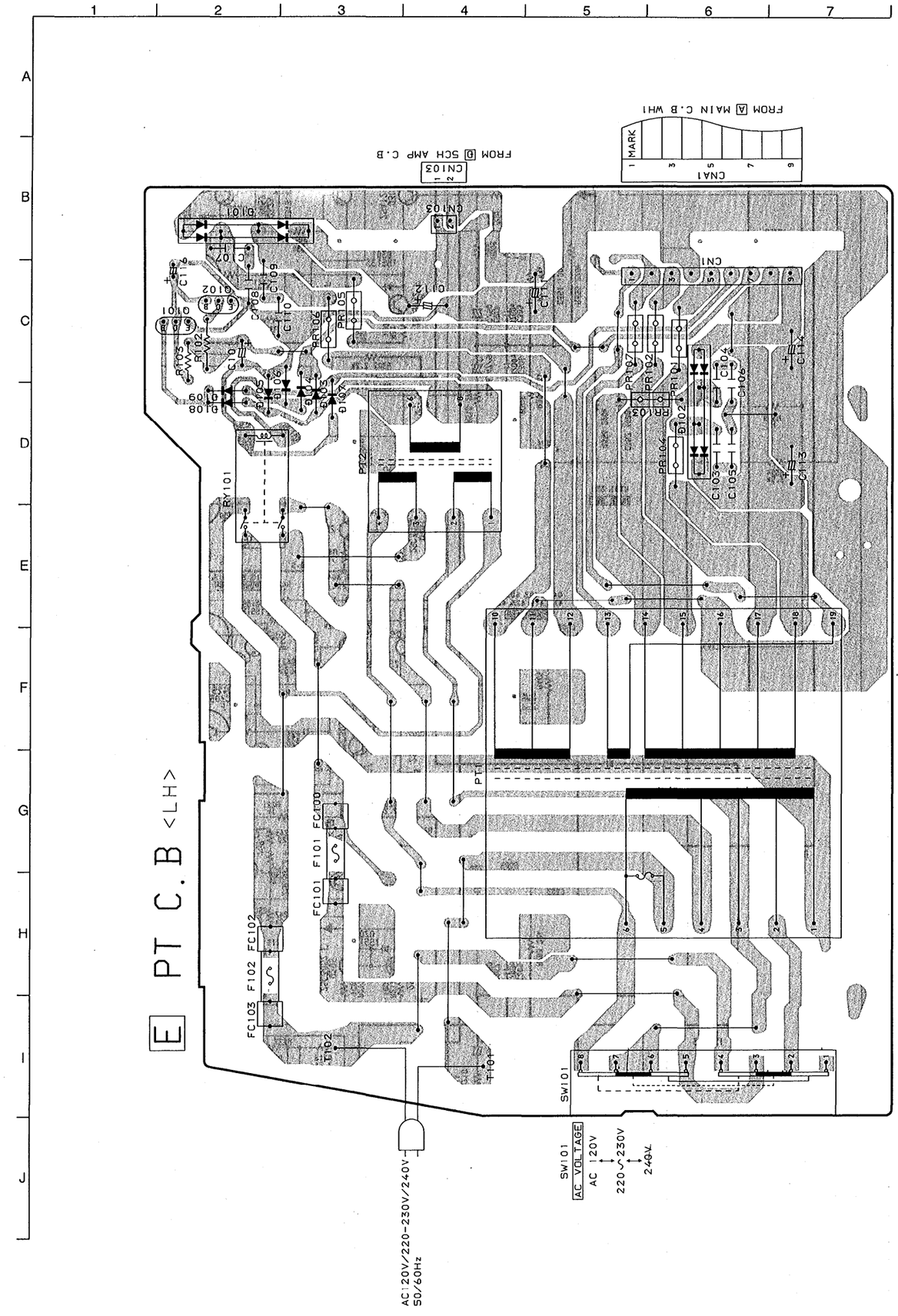
SCHEMATIC DIAGRAM – 6 (5CH AMP)



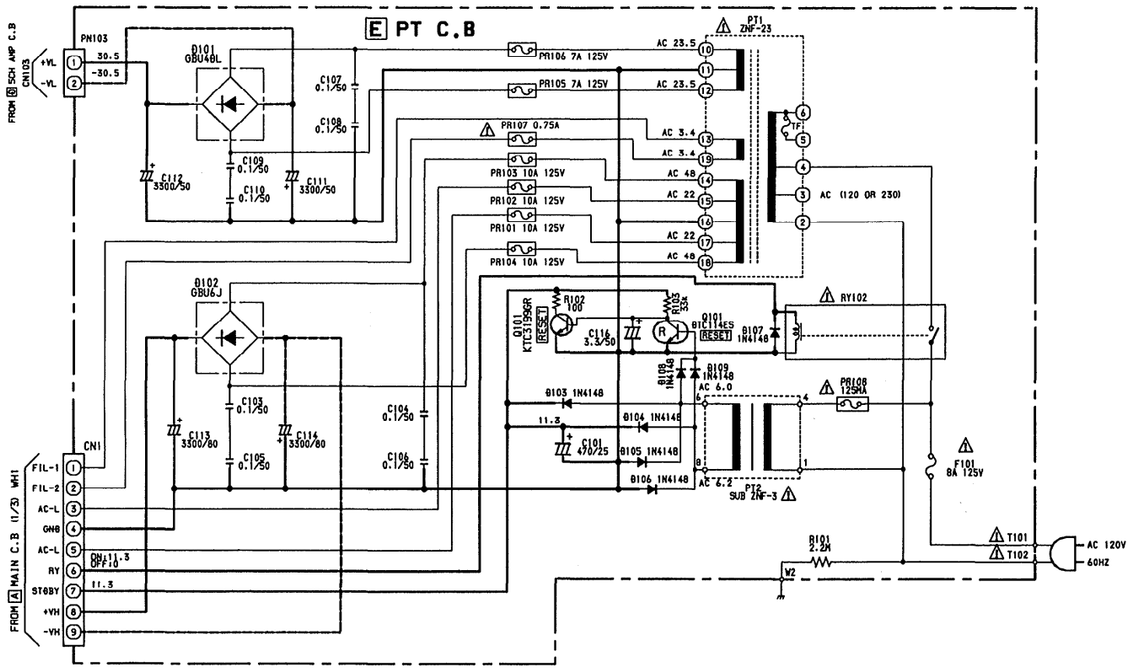
WIRING – 5 (PT : U)



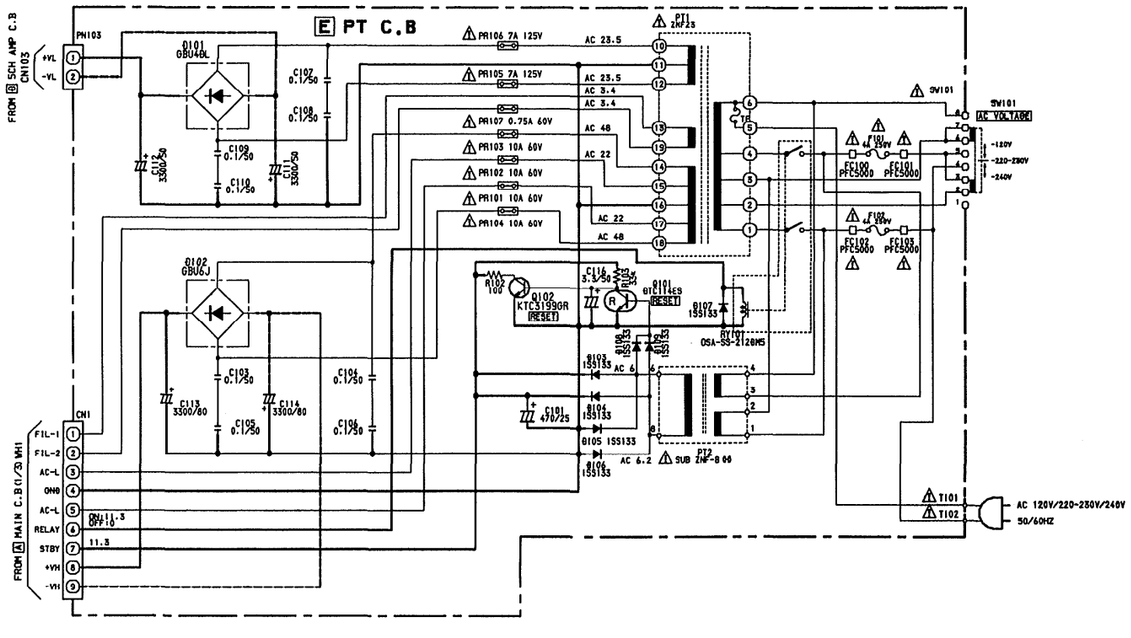
WIRING – 6 (PT : LH)



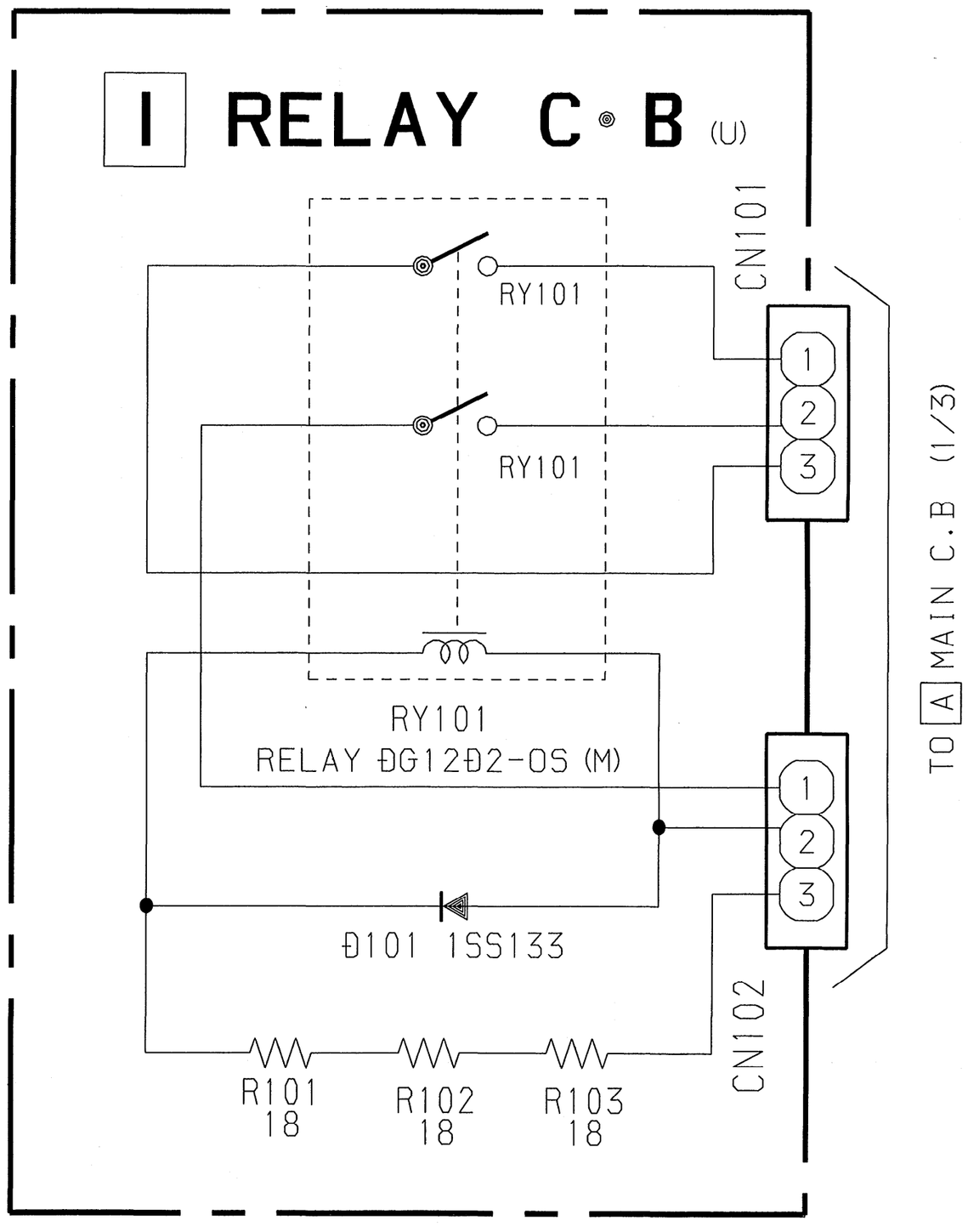
SCHEMATIC DIAGRAM – 7 (PT : U)



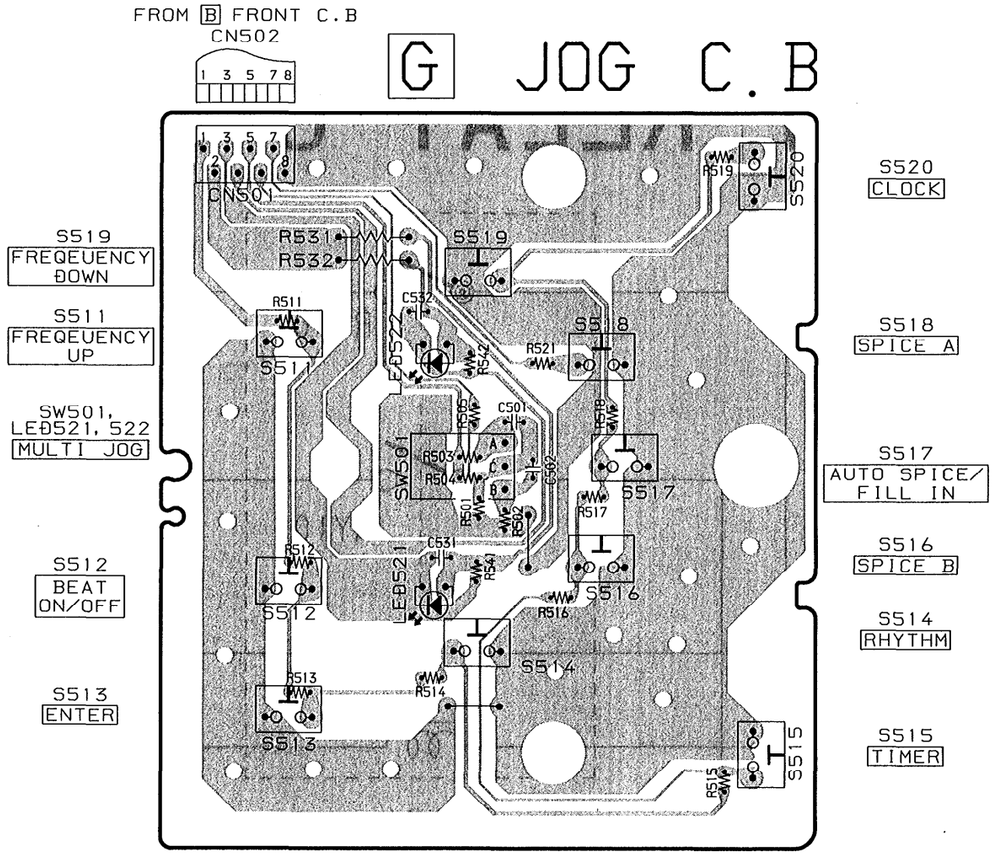
SCHEMATIC DIAGRAM – 8 (PT : LH)



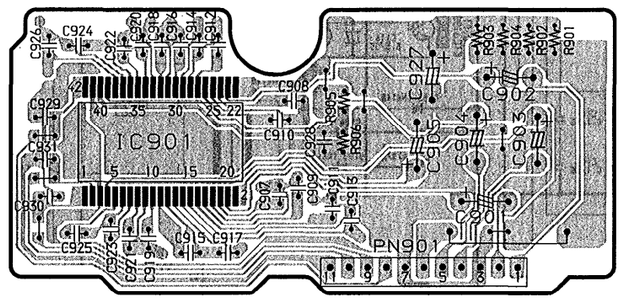
SCHEMATIC DIAGRAM – 9 (RELAY : U)



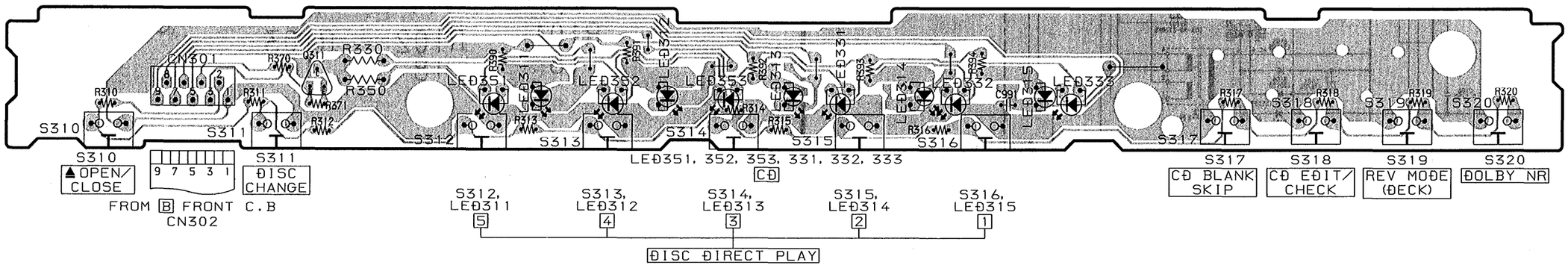
G JOG C.B

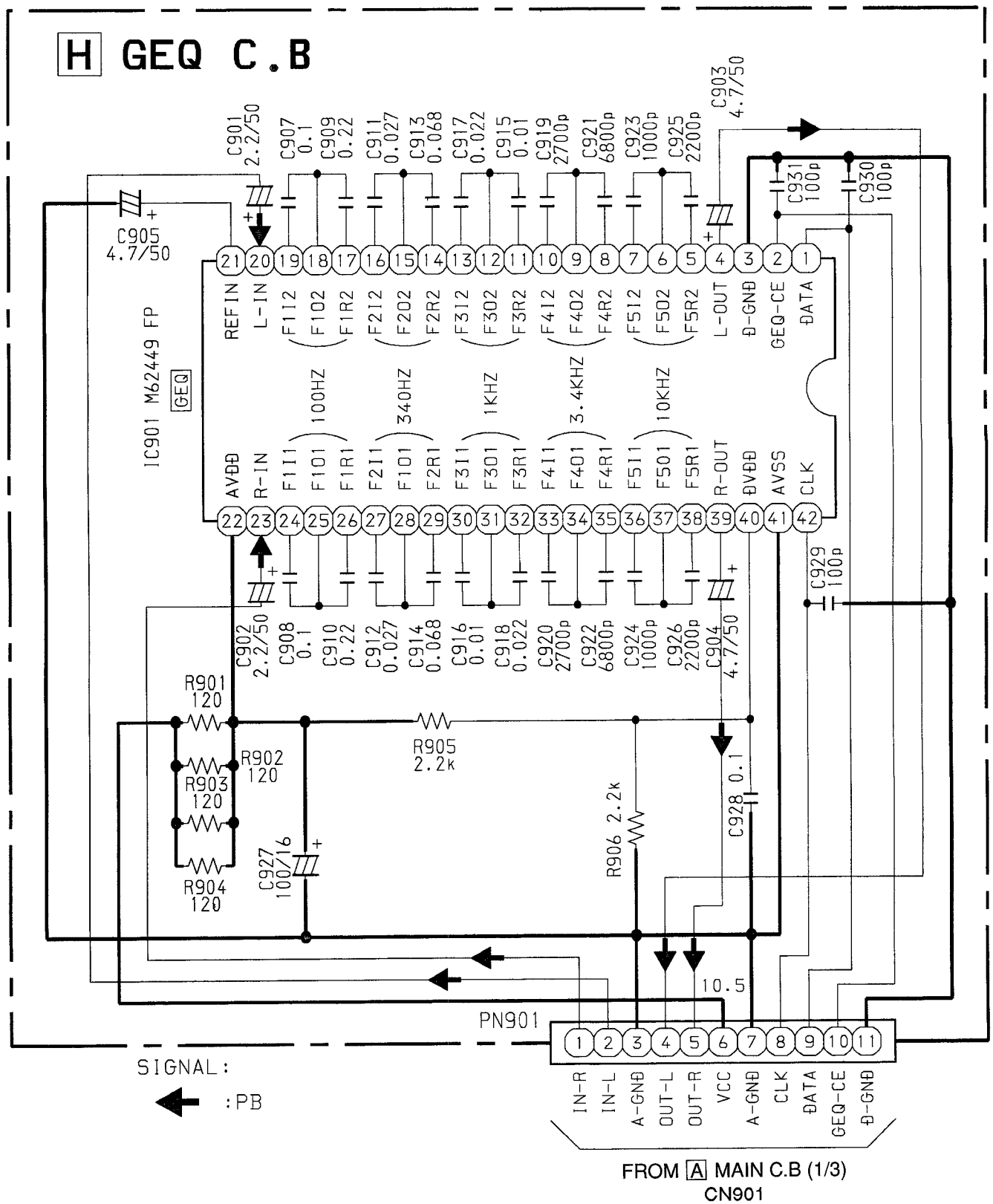


H GEQ C.B

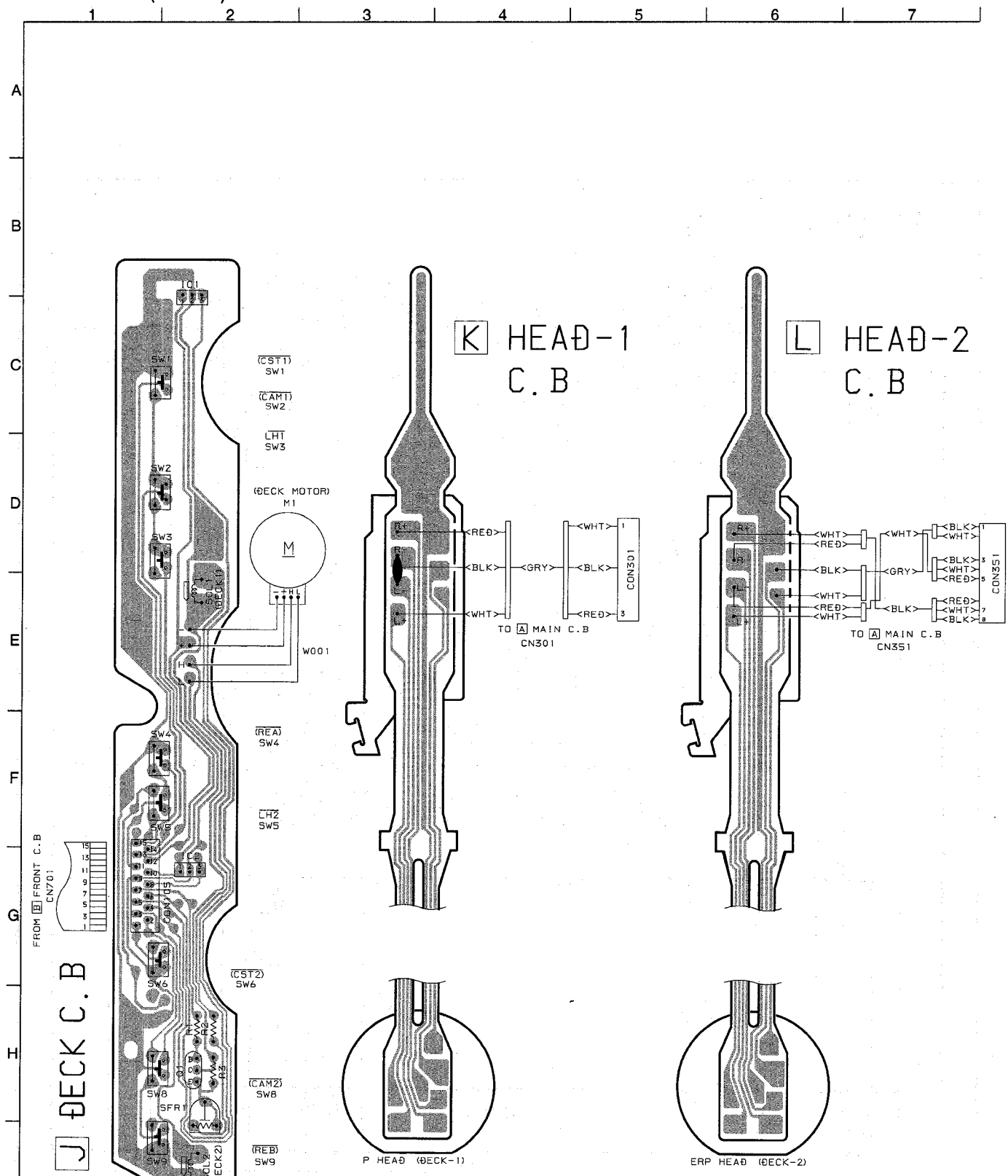


F KEY C.B



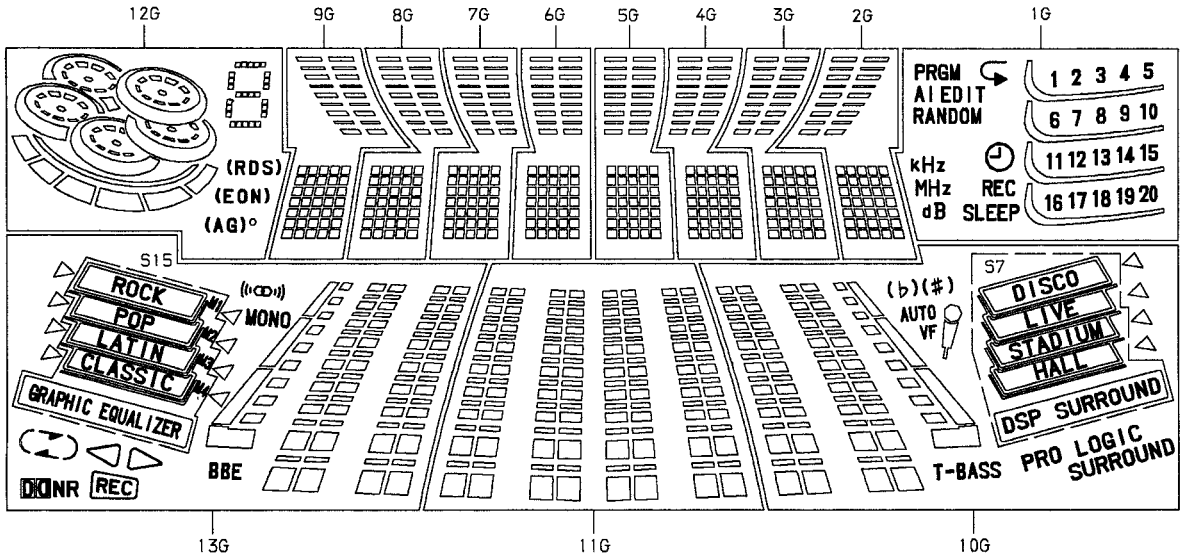

H GEQ C.B
IC901 M62449 FP
GEQ
REF IN
L-IN
L-OUT
Đ-GNĐ
GEQ-CE
ĐATA
AVĐĐ
R-IN
R-OUT
ĐVĐĐ
AVSS
CLK
100HZ
340HZ
1KHZ
3.4KHZ
10KHZ
C901 2.2/50
C902 2.2/50
C903 4.7/50
C904 4.7/50
C905 4.7/50
C907 0.1
C908 0.1
C909 0.22
C910 0.22
C911 0.027
C912 0.027
C913 0.068
C914 0.068
C915 0.01
C916 0.01
C917 0.022
C918 0.022
C919 2700p
C920 2700p
C921 6800p
C922 6800p
C923 1000p
C924 1000p
C925 2200p
C926 2200p
C927 100/16
C928 0.1
C929 100p
C930 100p
C931 100p
R901 120
R902 120
R903 120
R904 120
R905 2.2k
R906 2.2k
10.5
PN901
SIGNAL:
:PB
IN-R
IN-L
A-GNĐ
OUT-L
OUT-R
VCC
A-GNĐ
CLK
ĐATA
GEQ-CE
Đ-GNĐ
FROM A MAIN C.B (1/3)
CN901

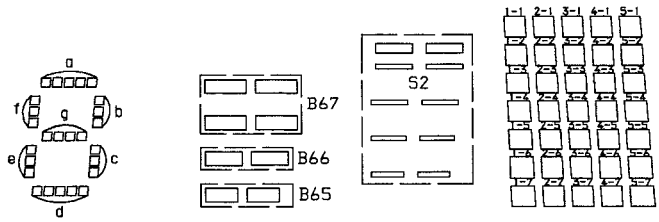
WIRING – 8 (DECK)



FL GRID ASSIGNMENT AND ANODE CONNECTION

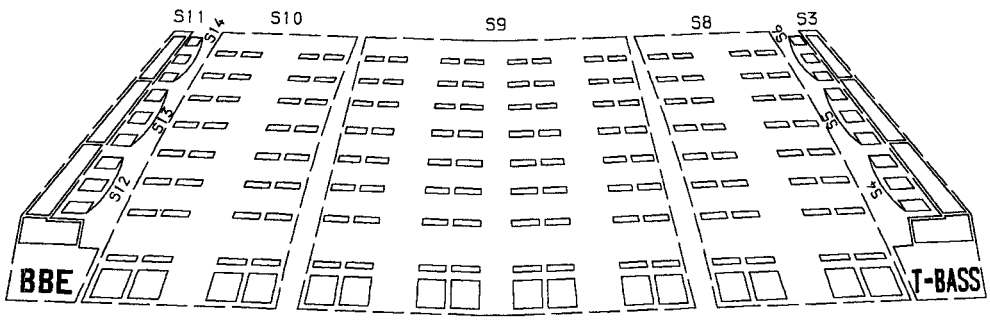
GRID ASSIGNMENT

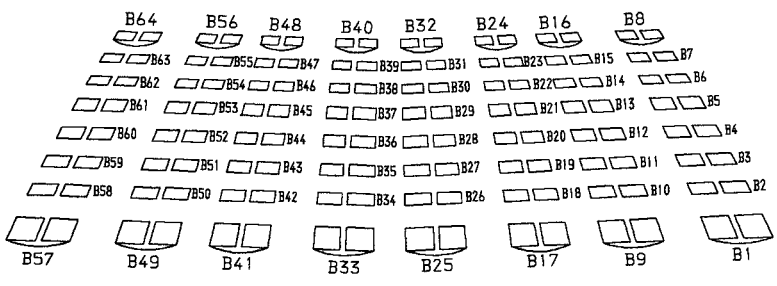




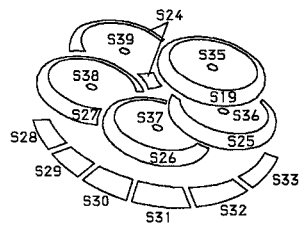
BJ680GK
GRID ASSIGNMENT

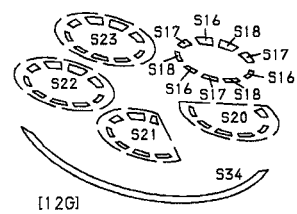
SEGMENT DESIGNATION





[13G, 11G, 10G]





[12G]

ANODE CONNECTION

	13G	12G	11G	10G	9G~2G	1G
P1	((∞))	○	–	#	5-7	S1
P2	**MONO**	( ) (AG)	–	( ) (#)	4-7	**PRGM**
P3	S14	**AG**	B32	♭ (b)	3-7	**AI**
P4	S13	( ) (EON)	B31	( )	2-7	**EDIT**
P5	S12	**EON**	B30	VF	1-7	**RANDOM**
P6	S11	( ) (RDS)	B29	**AUTO**	5-6	↻
P7	(M1) △	**RDS**	B28	S3	4-6	🕐
P8	(M2) △	S33	B27	S4	3-6	**REC**
P9	(M3) △	S32	B26	S5	2-6	**SLEEP**
P10	(M4) △	S31	B25	S6	1-6	**kHz**
P11	B64	S30	B48	B16	5-5	**MHz**
P12	B63	S29	B47	B15	4-5	**dB**
P13	B62	S28	B46	B14	3-5	**1**
P14	B61	S34	B45	B13	2-5	**2**
P15	B60	S25	B44	B12	1-5	**3**
P16	B59	S26	B43	B11	5-4	**4**
P17	B58	S20	B42	B10	4-4	**5**
P18	B57	S36	B41	B9	3-4	**6**
P19	S10	S21	S9	S8	2-4	**7**
P20	B56	S37	B40	B8	1-4	**8**
P21	B55	S27	B39	B7	5-3	**9**
P22	B54	S22	B38	B6	4-3	**10**
P23	B53	S38	B37	B5	3-3	**11**
P24	B52	S24	B36	B4	2-3	**12**
P25	B51	S23	B35	B3	1-3	**13**
P26	B50	S39	B34	B2	5-2	**14**
P27	B49	S19	B33	B1	4-2	**15**
P28	S15	S35	B24	–	3-2	**16**
P29	△ (ROCK)	S16	B23	–	2-2	**17**
P30	△ (POP)	S17	B22	S7	1-2	**18**
P31	△ (LATIN)	S18	B21	**PRO LOGIC SURROUND**	5-1	**19**
P32	△ (CLASSIC)	d	B20	(DISCO) △	4-1	**20**
P33	▷	e	B19	(LIVE) △	3-1	–
P34	◁	c	B18	(STADIUM) △	2-1	–
P35	REC	g	B17	(HALL) △	1-1	–
P36	)	f	–	–	B65	–
P37	▬	b	–	–	B66	–
P38	(	a	–	–	B67	–
P39	DOLBY NR	–	–	–	S2	–

IC DESCRIPTION

IC, LC876580W-5K75

Pin No.	Pin Name	I/O	Description
1	CLK	O	Common serial CLOCK output.
2	DATA	O	Common Serial DATA output.
3	STB	O	Common serial STROBE output.
4	CS-RYTHM	O	Rhythm IC chip select output.
5	GEQ-CE	O	GEQ IC chip enable output.
6	$\overline{\text{HP-MUTE}}$	I	Headphone plug-in detect input. (Output "L" at HOLD)
7	O-POWER	O	System power ON/$\overline{\text{OFF}}$ output. (Active "H")
8	PLL-CE	O	Tuner PLL IC chip enable output.
9	O-MUTE	O	System mute ON/$\overline{\text{OFF}}$ output.
10	I-TMBASE	I	Timebase clock (8Hz) input. (Output "L" at HOLD)
11	$\overline{\text{RESET}}$	I	Reset input.
12	VOL-JOG	I	Main volume JOG rotary encoder A/D input.
13	MULTI-JOG	I	MULTI JOG rotary encoder A/D input.
14	VSS1	–	Connected to GND.
15	CF 1	–	9.43MHz oscillator circuit.
16	CF2	–	
17	VDD1	–	Power supply.
18	$\overline{\text{HOLD}}$	I	Power supply voltage detect A/D input.
19 ~ 22	KEY 1 ~ 4	I	KEY 1 ~ 4 A/D input. (Output "L" at HOLD)
23	I-CDSW	I	CD mechanism SW A/D input. (Output "L" at HOLD)
24	I-DISH	I	CD turntable photo sensor A/D input. (Output "L" at HOLD)
25	I-MIC	I	Auto-VF MIC level special A/D input. (Output "L" at HOLD)
26	I-SPEANA	I	SPEANA level A/D input. (Output "L" at HOLD)
27	$\overline{\text{MS}}$/I-TU-SIG	I	Deck MS SENS / Tuner tuning signal level A/D input. (Output "L" at HOLD)
28	I-SENS/I-RDSCLK	I	CD IC SENS / Tuner RDS IC CLK (INT2) input. (Output "L" at HOLD&INI)
29	$\overline{\text{I-RMC}}$	I	Remote control signal input. Active: "L". (Output "L" at HOLD)
30 ~ 42	G13 ~ G1	O	FL grid G13 ~ G1 output.
43 ~45, 47	P39 ~ P36	O	FL segment P39 ~ P36 output.
46	VDD3	–	Power supply.
48	P35/SPEANA A	O	FL segment P35 output / SPEANA band select output (A) .
49	P34/SPEANA B	O	FL segment P34 output / SPEANA band select output (B) .
50	P33/SPEANA C	O	FL segment P33 output / SPEANA band select output (C).
51	VP	–	Power supply for FL.
52 ~ 57	P32 ~ P27	–	FL segment P32 ~ P27 output.
58	P26/$\overline{\text{AC DEMO}}$	I/O	FL segment P26 output / $\overline{\text{DEMO}}$ at AC-IN diode input.(No store DEMO mode.)
59	P25/DOLBY-SUR	I/O	FL segment P25 output / DOLBY-PRO select diode input.
60	P24/AC 3	I/O	FL segment P24 output / AC 3 (5CH IN) select input.
61	P23/K-CON	I/O	FL segment P23 output / Key control select diode input.
62	P22/RDS	I/O	FL segment P22 outpout / RDS select diode input.
63	P21/FM1	I/O	FL segment P21 output / FM1 select diode input.
64	P20/SW	I/O	FL segment P20 output / SW select diode input.
65	P19/LW	I/O	FL segment P19 output / LW select diode input.

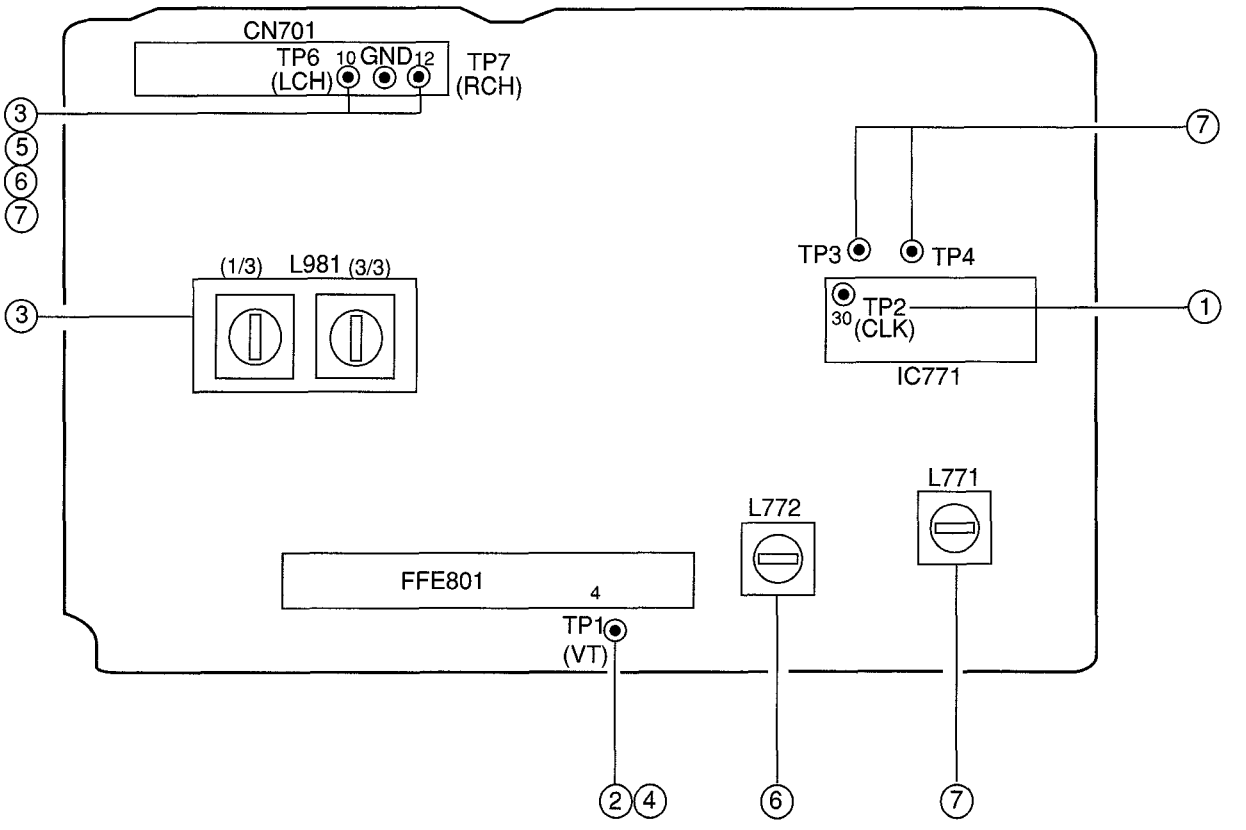
Pin No.	Pin Name	I/O	Description
66	P18/AM-10K	I/O	FL segment P18 output / AM 10kHz step initial diode input.
67	P17/AM-ST	I/O	FL segment P17 output / AM stereo select diode input.
68	P16/$\overline{\text{DSP}}$	I/O	FL segment P16 output / $\overline{\text{DSP}}$ select diode input.
69	P15/$\overline{\text{RHYTHM}}$	I/O	FL segment P15 output / $\overline{\text{RHYTHM IC}}$ select diode input.
70	P14/$\overline{\text{M-GEQ}}$	I/O	FL segment P14 output / $\overline{\text{MANUAL-GEQ}}$ select diode input.
71	P13/$\overline{\text{CST 2}}$	I/O	FL segment P13 output / Cassette (2) switch input (active: "L").
72	VDD4	–	Power supply.
73	P12/$\overline{\text{REB}}$	I/O	FL segment P12 output / REC enable (B) switch input (active: "L").
74	P11/$\overline{\text{CAM}}$	I/O	FL segment P11 output / CAM (2) switch input (active: "L").
75	P10/AUTO 1	I/O	FL segment P10 output / Auto stop reel (1) pulse input.
76	P9/AUTO 2	I/O	FL segment P9 output / Auto stop reel (2) pulse input.
77	P8/$\overline{\text{CAM 1}}$	I/O	FL segment P8 output / CAM (1) switch input (active: "L").
78	P7/$\overline{\text{CST 1}}$	I/O	FL segment P7 output / Cassette (1) switch input (active: "L").
79	P6/$\overline{\text{REA}}$	I/O	FL segment P6 output / REC enable (A) switch input (active: "L").
80 ~ 84	P5 ~ P1	O	FL segment P5 ~ P1 output.
85	$\overline{\text{K-SCAN}}$	O	KEY SCAN output (active: "L").
86	$\overline{\text{SOL 1}}$	O	DECK (1) solenoid $\overline{\text{ON}}$/OFF output.
87	$\overline{\text{SOL 2}}$	O	DECK (2) solenoid $\overline{\text{ON}}$/OFF output.
88	$\overline{\text{O-MOTOR}}$	O	Deck motor $\overline{\text{ON}}$/OFF output .
89	VSS2	–	Connected to GND.
90	VDD2	–	Power supply.
91	O–DISHREV	O	CD turn table dish reverse output.
92	O-DISHFWD	O	CD turn table dish forward output.
93	O-OPEN	O	CD tray open output.
94	O-CLOSE	O	CD tray close output.
95	IFC-$\overline{\text{TU}}$/I-SQDATA	I	Tuner tune/IF count input (active: "L") / CD SUB-Q data input.
96	O-SQCK/$\overline{\text{I-STEREO}}$	I/O	CD SUB-Q data read clock output / Tuner stereo detect input (Active "L").
97	O-DATA(CD)/ I-RDS DATA	I/O	CD IC control data output / Tuner RDS data input.
98	O-XLT	O	CD IC control data latch output.
99	CLK (CD)	O	CD IC control clock output.
100	2099STB	O	Shift register (BU2099) strobe output.

IC, LC72131D

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>X IN</td><td rowspan="2">I/O</td><td rowspan="2">A crystal oscillator (4.5MHz) is connected between these pins.</td></tr>
<tr><td>22</td><td>X-OUT</td></tr>
<tr><td>2</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>3</td><td>CE</td><td>I</td><td>To enable the IC. Active "H".</td></tr>
<tr><td>4</td><td>DI</td><td>I</td><td>Digital data input from CPU (LC876580W-5K75) when relevant key is operated. Active "H".</td></tr>
<tr><td>5</td><td>CL</td><td>I</td><td>To clock in the data DI.</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Digital data output to CPU (LC876580W-5K75).</td></tr>
<tr><td>7</td><td>T-BASE</td><td>O</td><td>Outputs a reference clock signal (8Hz) for the clock.</td></tr>
<tr><td>8</td><td>$\overline{\text{MONO}}$ / BEAT</td><td>O</td><td>Outputs "H" when $\overline{\text{MONO}}$ / BEAT is switched.</td></tr>
<tr><td>9</td><td>$\overline{\text{FM}}$ / SW</td><td>O</td><td>Output "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><th>AM</th><th>FM</th><th>LW</th><th>MW</th><th>FM</th><th>MW</th><th>SW</th><th>FM</th></tr>
<tr><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td></tr>
</table></td></tr>
<tr><td>10</td><td>$\overline{\text{MW}}$/SW</td><td>O</td><td>Outputs "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><th>AM</th><th>FM</th><th>LW</th><th>MW</th><th>FM</th><th>MW</th><th>SW</th><th>FM</th></tr>
<tr><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>11</td><td>IF-MUTE</td><td>O</td><td>To control internal counter.</td></tr>
<tr><td>12</td><td>IF-IN</td><td>I</td><td>General purpose counter input.</td></tr>
<tr><td>13</td><td>$\overline{\text{TUNE}}$</td><td>I</td><td>Receives "L" when station is tuned.</td></tr>
<tr><td>14</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>15</td><td>AM-IN</td><td>I</td><td>Receives the AM local oscillator frequency signal.</td></tr>
<tr><td>16</td><td>FM-IN</td><td>I</td><td>Receives the FM local oscillator frequency signal.</td></tr>
<tr><td>17</td><td>VDD</td><td>–</td><td>Supply power to IC (+5V).</td></tr>
<tr><td>18</td><td>PD</td><td>O</td><td>PLL charge pump output.</td></tr>
<tr><td>19</td><td>A-IN</td><td>I</td><td rowspan="2">The MOS transistor for PLL active low pass filter.</td></tr>
<tr><td>20</td><td>A-OUT</td><td>O</td></tr>
<tr><td>21</td><td>VSS</td><td>–</td><td>Ground.</td></tr>
</table>

ADJUSTMENT <TUNER / DECK>

[C] TUNER C.B



< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP2 (CLK)
   Method : Set to AM 1710kHz and check that the test point is 2160kHz ±45Hz.

2. AM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to AM 1710kHz and AM 530kHz and check that the test point is less than 8.5V(1710kHz) and more than 0.6V(530kHz).

3. AM Tracking Adjustment
   Settings : • Test point : TP6(Lch), TP7(Rch)
   • Adjustment location :
   L981(1/3) ..... 1000kHz(U)
   L981(1/3) ..... 999kHz(LH)
   Method : Set to AM 1000kHz(U),999kHz(LH) and adjust L981(1/3) so that the test point is max.

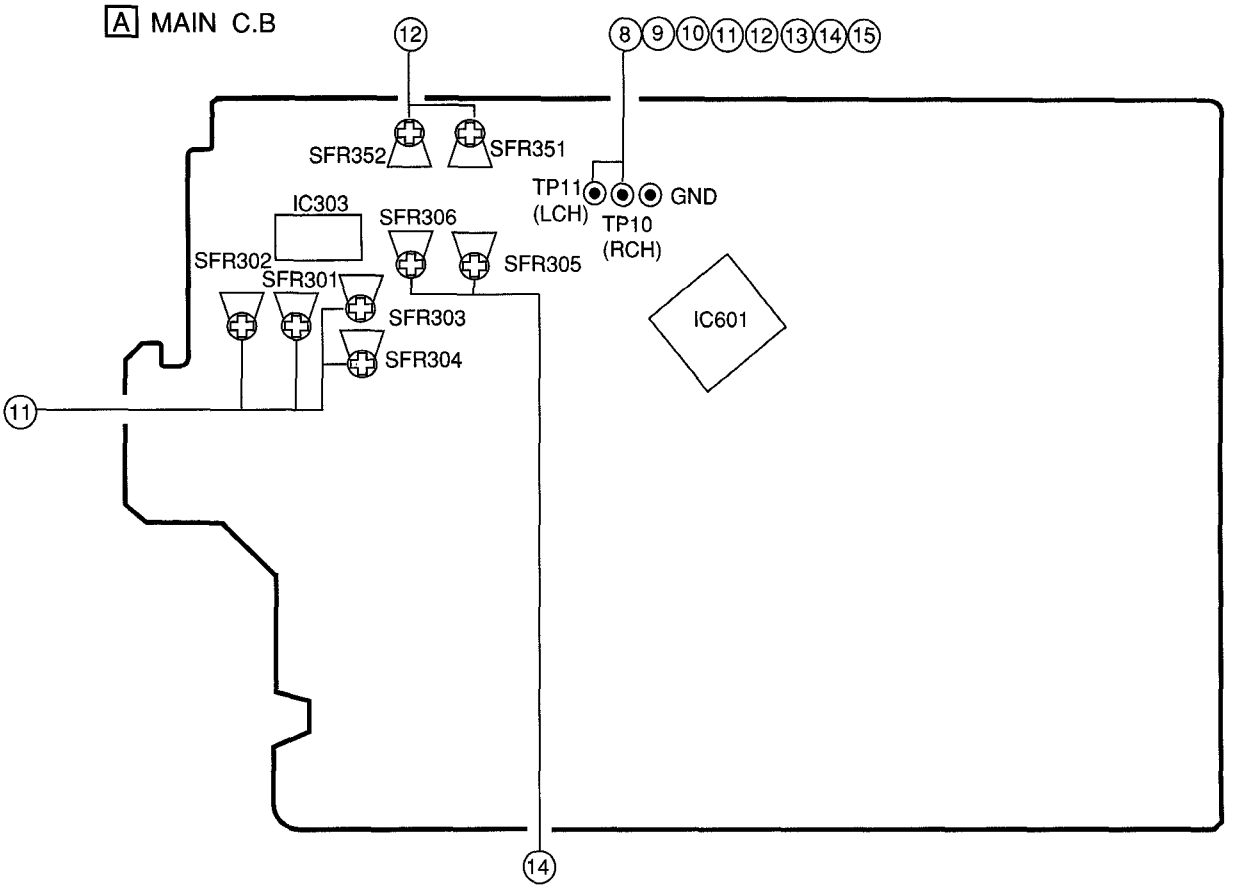
4. FM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to FM 108.0MHz and check that the test point is less than 8.0V.
   Set to FM 87.5MHz and check that the test point is more than 0.5V.

5. FM Tracking Check
   Settings : • Test point : TP6(Lch), TP7(Rch)
   Method : Set to FM 98.0MHz and check that the test point is less than 9.0dBμV.

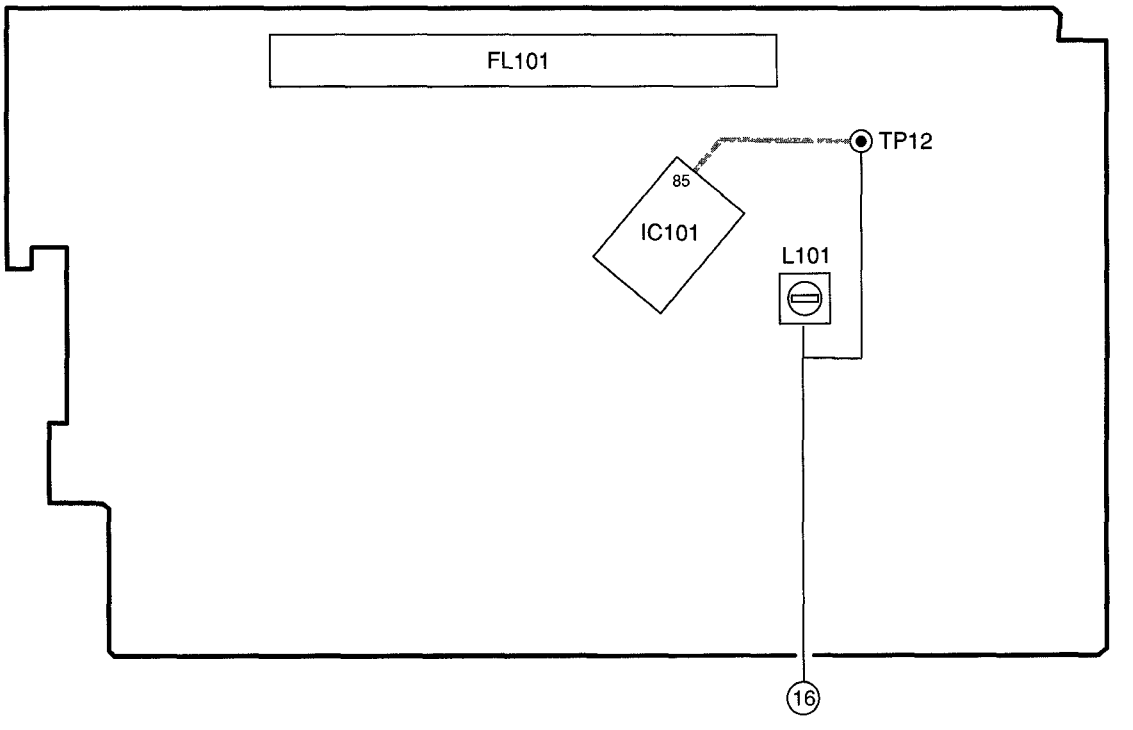
6. AM IF Adjustment
   Settings : • Test point : TP6(Lch), TP7(Rch)
   • Adjustment location :
   L772 ..... 450kHz
   Method : Adjust L772 so that the output becomes max.

7. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC Balance)
   TP6(Lch), TP7(Rch) (Distortion)
   • Adjustment location : L771
   • Input level : 60dBμV
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V. Next, check that the distortion is less than 1.3%

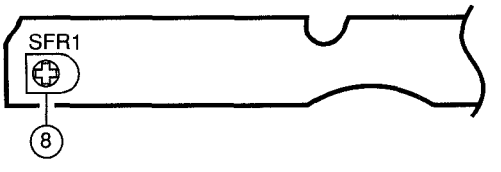
A MAIN C.B



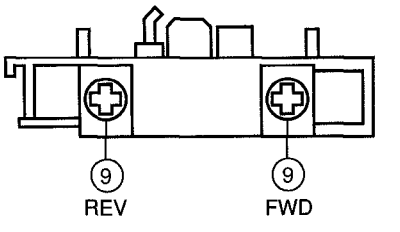
B FRONT C.B



J DECK C.B



DECK–1 P,DECK-2R/P/E HEAD



< DECK SECTION >

8. Tape Speed Adjustment (DECK 2)
   Settings : • Test tape : TTA–100(3kHz)
   • Test point : TP10(Rch), TP11(Lch)
   • Adjustment location : SFR1
   Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz(FWD) and ± 45Hz(REV) with respect to forward speed.

9. Head Azimuth Adjustment (DECK 1, DECK 2)
   Settings : • Test tape : TTA–300 (315/10kHz)
   • Test point : TP10(Rch), TP11(Lch)
   • Adjustment location : Head azimuth adjustment screw
   Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on each FWD PLAY and REV PLAY mode.

10. PB Frequency Response Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–300 (315/10kHz)
    • Test point : TP10(Rch), TP11(Lch)
    Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is within 0 ± 2dB.

11. PB Sensitivity Adjustment (DECK 1, DECK 2)
    Settings : • Test tape : TTA–200 (400Hz)
    • Test point : TP10(Rch), TP11(Lch)
    • Adjustment location : SFR301 (DECK 1, Lch)
    SFR302 (DECK 1, Rch)
    SFR303 (DECK 2, Lch)
    SFR304 (DECK 2, Rch)
    Method : Play back the test tape and adjust SFRS so that the output level of the test points become 245mV±10mV.

12. REC/PB Frequency Response Adjustment (DECK 2)
    Settings : • Test tape : TTA–602 (Normal)
    • Test point : TP10(Rch), TP11(Lch)
    • Input signal : 1kHz / 10kHz (LINE IN)
    • Adjustment location : SFR351 (Lch)
    SFR352 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the test points becomes 16mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output level of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

13. REC/PB Frequency response Check (DECK 2)
    Settings : • Test tape : TTA-615 (CrO_2)
    • Test point : TP10(Rch), TP11(Lch)
    • Input signal : 1kHz/10kHz (LINE IN)
    Method : Apply a 1kHz signal and REC mode. Then Adjust OSC attenuator so that the output level at the test points becomes 16mV. Record and play back the 1kHz and 10kHz signals and check that the output is 0dB ± 2dB.

14. REC/PB Sensitivity Adjustment (DECK 2)
    Settings : • Test tape : TTA–602 (Normal)
    • Test point : TP10(Rch), TP11(Lch)
    • Input signal : 1kHz (LINE IN)
    • Adjustment location : SFR305 (Lch)
    SFR306 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the test points becomes 160mV. Record the play back the 1kHz signal and adjust SFRs so that the output level becomes 0dB ± 0.5dB.

15. REC/PB Sensitivity Check (DECK 2)
    Settings : • Test tape : TTA-615 (CrO_2)
    • Test point : TP10(Rch), TP11(Lch)
    • Input signal : 1kHz (LINE IN)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the test points becomes 160mV. Record and play back the 1kHz signal and check that the output is 0dB ± 1.5dB.

16. μ-CON OSC Adjustment
    Settings : • Test point : TP12
    • Adjustment location : L101
    Method : Insert AC plug with pressing TUNER function key. Adjust L101 so that the frequency across the test point is 210.5Hz ± 0.2Hz.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity :	Less than 10dB
(THD 3%)	[at 87.5MHz]
	Less than 9dB
	[at 98.0 / 108.0MHz]
S/N 50dB Quieting sensitivity (L-R) :	
	Less than 35dB
	[at 98.0MHz]
Signal to noise ratio :	MONO : More than 68dB
	STEREO : More than 62dB
	[at 98.0MHz]
Distortion :	MONO : Less than 1.2%
	STEREO : Less than 2.0%
	[at 98.0MHz]
Auto stop level :	25dB ± 10dB
	[at 98.0MHz]
Stereo separation :	More than 22dB
	[at 98.0MHz]
Intermediate frequency :	10.7MHz

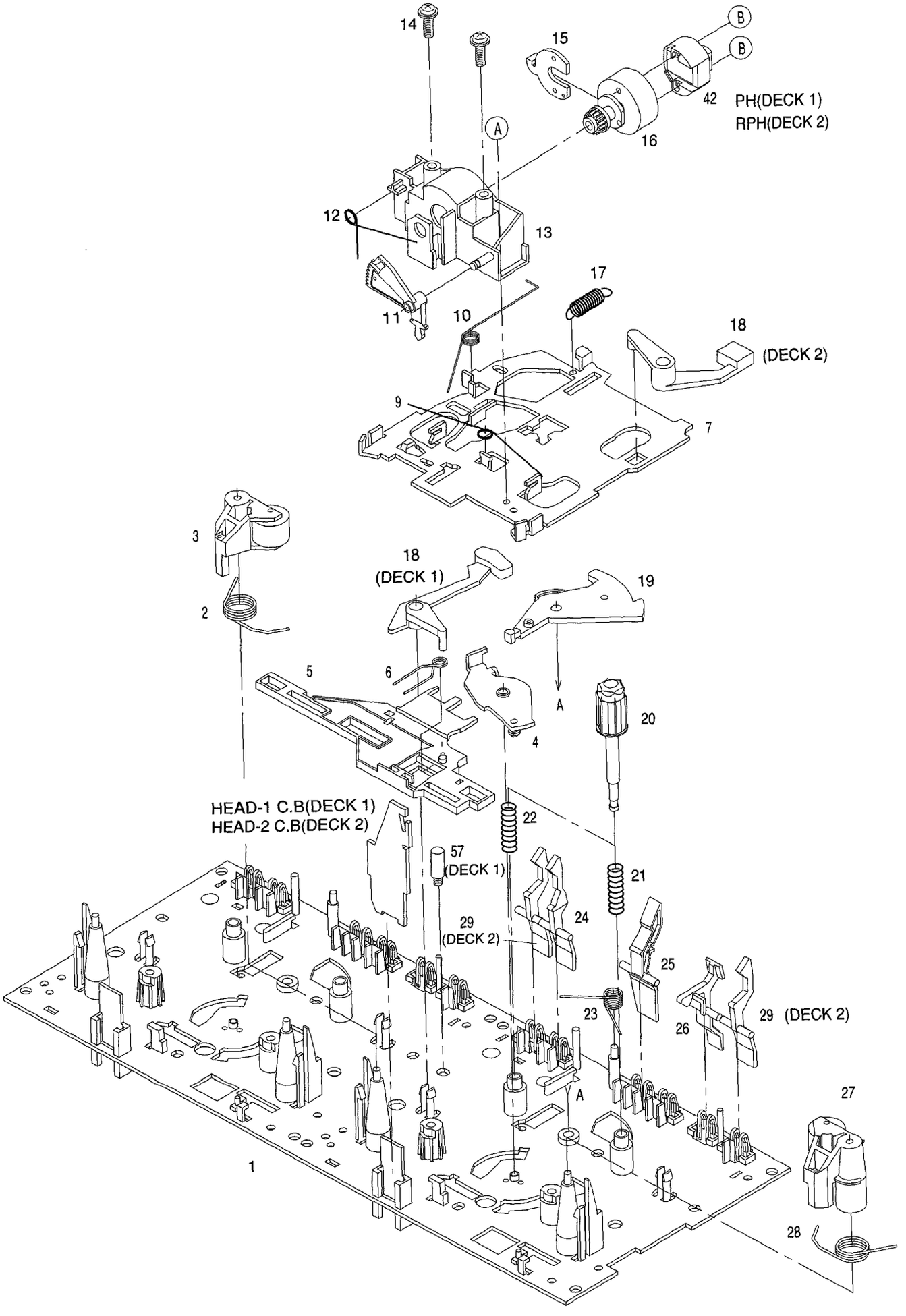
<AM SECTION>

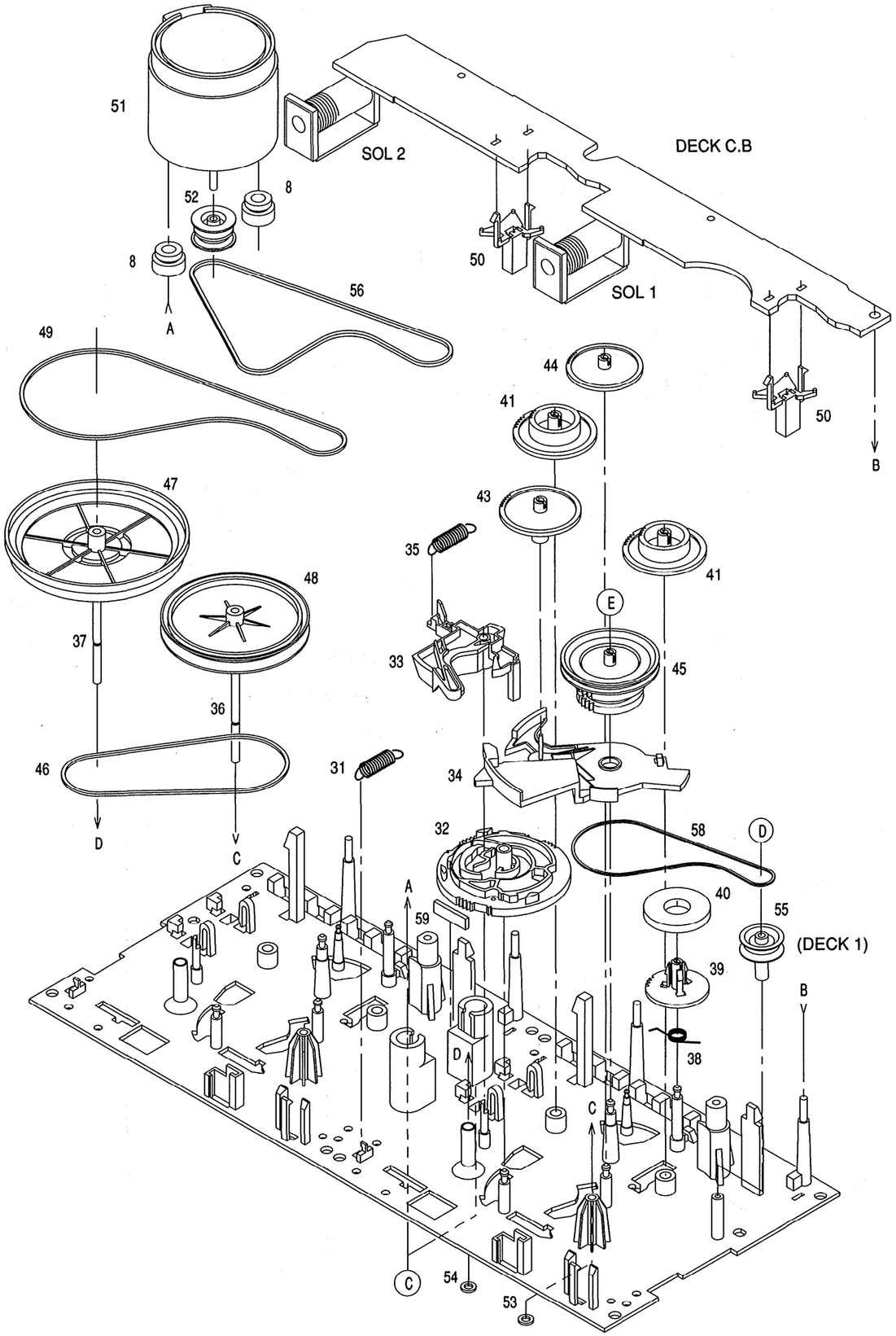
Sensitivity :	Less than 62dB
(S/N 20 dB)	[at 600kHz<U>]
	[at 603kHz<LH>]
	Less than 58dB
	[at 1000 / 1400kHz<U>]
	[at 999/1404kHz<LH>]
Signal to noise ratio :	More than 36dB
	[at 1000kHz<U>]
	[at 999kHz<LH>]
Distortion :	Less than 1.5%
	[at 1000kHz<U>]
	[at 999kHz<LH>]
Auto stop level :	52dB + 10/-15dB
	[at 1000kHz<U>]
	[at 999kHz<LH>]
Intermediate frequency :	450kHz

<DECK SECTION>

Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.21% (W.R.M.S)
Pinch roller pressure :	270 ~ 330g (FWD, REV)
Take-up torque :	30 ~ 55g-cm (FWD, REV)
F.F & REW torque :	75 ~ 160g-cm
Back tension :	2 ~ 7g-cm (FWD, REV)
PB Output level :	195mV ± 1.0dB (SP OUT)
REC/PB Output level :	0 ± 1.0dB (0VU,NORMAL)
	-0.5 ± 1.0dB (0VU,CrO2)
Distortion (REC/PB) :	Less than 2.0% (NORMAL, CrO2)
Noise level (PB) :	Less than 3.0mV (NORMAL,SP OUT)
Noise level (REC/PB) :	Less than 4.5mV (NORMAL)
Erasing ratio :	More than 60dB (at 125Hz, 10VU)
Test tape :	NORMAL : TTA-602
	CrO2 : TTA-615

TAPE MECHANISM EXPLODED VIEW 1 / 1





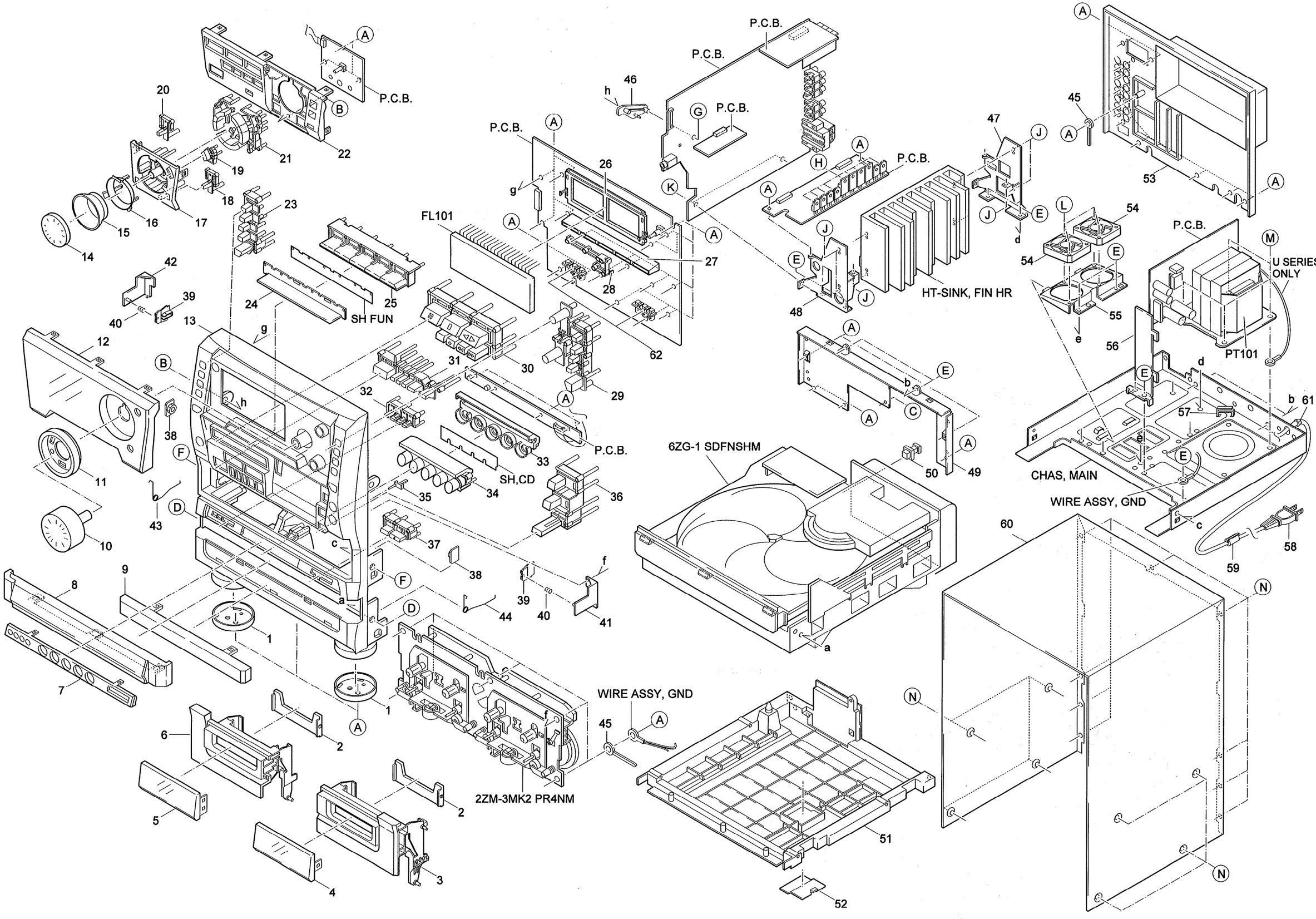
TAPE MECHANISM PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-341-110		LVR ASSY,PINCH L2
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-119		SPR-T,LINK
11	82-ZM1-210-119		GEAR,H T
12	82-ZM1-213-019		SPR-T,HEAD
13	82-ZM1-207-619		GUIDE,TAPE
14	86-ZM4-206-010		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-119		HLDR,HEAD
17	82-ZM1-218-019		SPR-E,HB
18	82-ZM1-263-110		LVR,EJECT L (DECK 1)
18	82-ZM1-264-010		LVR,EJECT R (DECK 2)
19	82-ZM1-222-21K		LVR,PLAY
20	82-ZM1-217-319		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-310		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM1-241-319		LVR,MC
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-344-110		LVR ASSY,PINCH R2
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
31	82-ZM1-255-319		SPR-E,LVR DIR
32	82-ZM3-305-01K		GEAR,CAM M2
33	82-ZM1-227-21K		LVR,TRIG
34	82-ZM3-306-11K		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
36	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-31K		GEAR,REEL
42	87-A90-319-010		HEAD,PH HADKH2 FPC
42	87-A90-320-010		HEAD,RPH HADKH5 FPC
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-110		FLY-WHL,R W(DECK 2)
47	82-ZM3-338-110		FLY-WHL,R3 W(DECK 1)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 2)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 1)
49	82-ZM3-329-210		BELT,SBU R2
50	82-ZM1-245-210		HLDR,IC
51	87-045-347-019		MOT,SHU2L 70(M1)
52	82-ZM3-221-010		PULLEY,MOT 2M
53	82-ZM1-288-019		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
55	82-ZM3-335-210		PULLEY,COUPLER M3(DECK 1)
56	82-ZM3-337-010		BELT,SBU MOT 2
57	82-ZM3-339-010		SHAFT,COUPLER N3(DECK 1)
58	86-ZM1-206-010		BELT,MAIN L
59	82-ZM3-340-010		SH,BELT D2
A	85-ZM3-202-010		S-SCREW,TG
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-B10-043-010		W-P,0.99-4-0.25 SLT
E	82-ZM3-334-010		PW,2.16-6-0.4

MECHANICAL EXPLODED VIEW 1 / 1

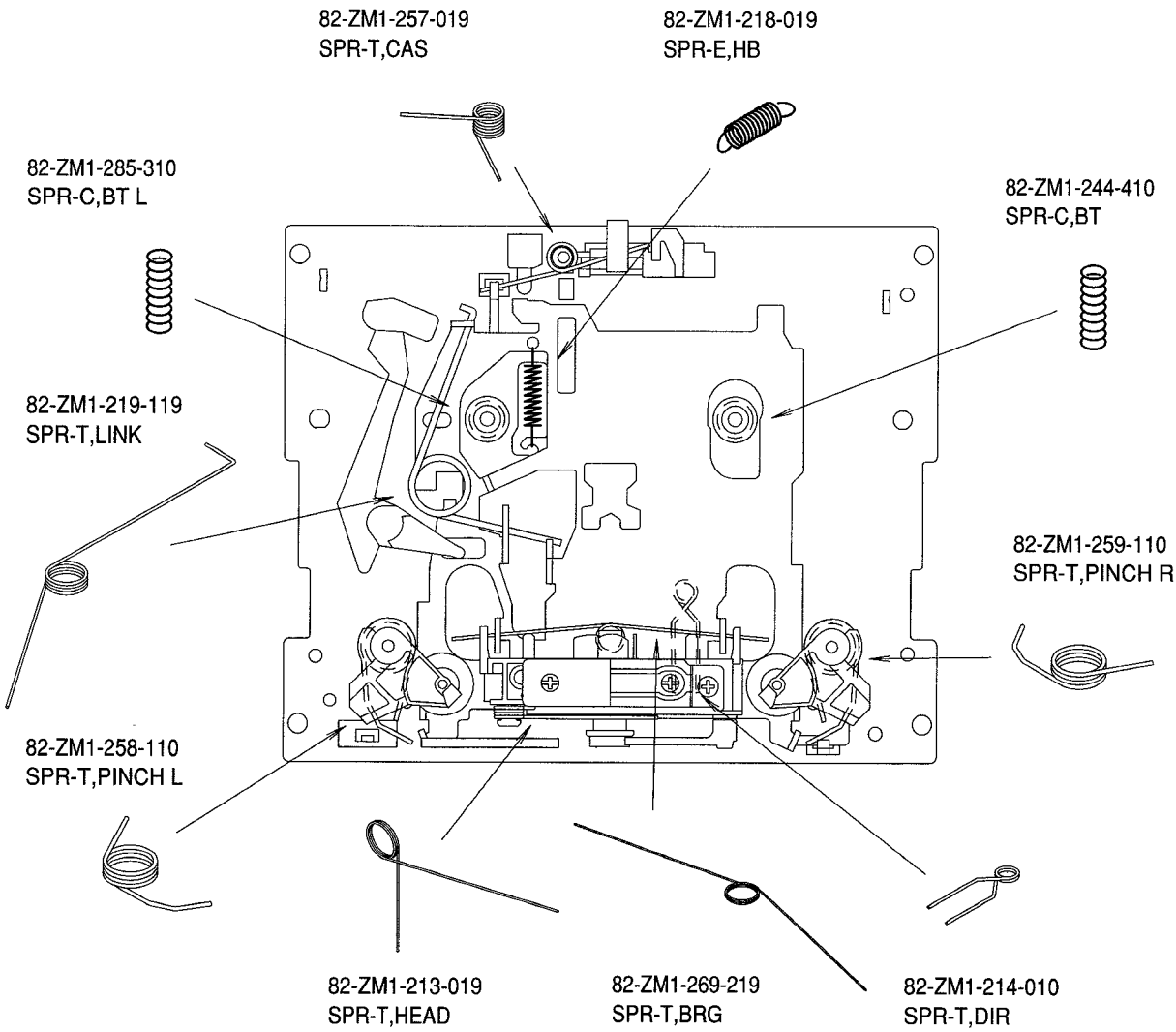


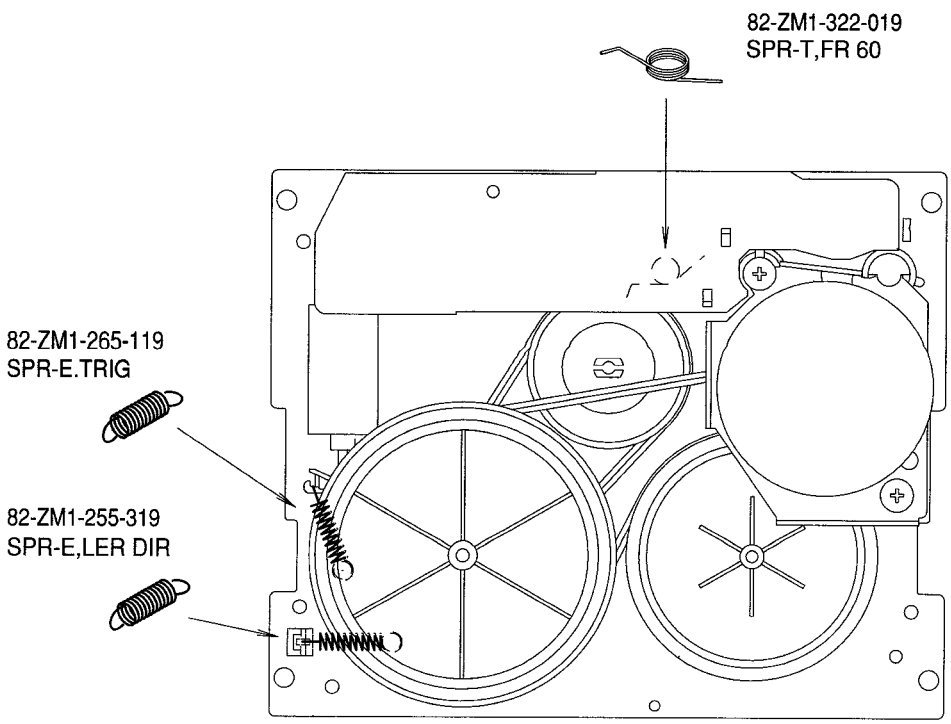
MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	88-NF3-090-010		RING,FOOT
2	8Z-NF3-105-010		REFLECTOR,CASS
3	8Z-NF3-026-010		BOX,CASS R
4	8Z-NF3-056-010		WINDOW,CASS R
5	8Z-NF3-055-010		WINDOW,CASS L
6	8Z-NF3-025-010		BOX,CASS L
7	8Z-NF3-038-010		PANEL,CD
8	8Z-NF3-040-010		PANEL ASSY,TRAY
9	8Z-NF3-046-010		COVER, CD H
10	8Z-NF3-090-010		KNOB,RTRY MAIN
11	8Z-NF3-095-010		RING,MAIN
12	8Z-NFP-050-010		WINDOW,DISP PRO
13	8Z-NF3-001-010		CABI,FR H<LH>
13	8Z-NF3-002-010		CABI,FR U<U>
14	8Z-NF3-091-010		KNOB,RTRY JOG
15	8Z-NF3-096-010		RING,JOG
16	8Z-NF3-107-010		REFLECTOR,JOG
17	8Z-NF3-039-010		PANEL,JOG
18	8Z-NF3-075-010		KEY,TIMER
19	8Z-NF3-077-010		KEY,ENTER
20	8Z-NF3-076-010		KEY,CLOCK
21	8Z-NF3-074-010		KEY,JOG
22	8Z-NFP-030-010		PANEL,FR PRO<LH>
22	8Z-NFP-032-010		PANEL,FR PRO U<U>
23	8Z-NF3-060-010		KEY,GEQ
24	8Z-NF3-106-010		REFLECTOR,FUN
25	8Z-NF3-062-010		KEY,FUN
26	8Z-NF3-210-010		GUIDE,FL
27	8Z-NF3-211-010		GUIDE,LED FUN
28	8Z-NF3-212-010		GUIDE,LED OPE
29	8Z-NF3-061-010		KEY,DSP
30	8Z-NF3-063-010		KEY ASSY,OPE
31	8Z-NFP-070-010		KEY,KARAOKE PRO
32	8Z-NF3-078-010		KEY,CD
33	8Z-NF3-213-010		GUIDE,LED DIRECT
34	8Z-NF3-079-010		KEY,DIRECT
35	8Z-NF3-108-010		REFLECTOR,ECO
36	8Z-NF3-073-010		KEY,BBE
37	8Z-NF3-080-010		KEY,OPEN
38	87-NF8-220-010		DMPR,150
39	82-NF5-229-010		PLATE,LOCK
40	86-NF9-224-010		SPR-C,LOCK
41	87-NF4-217-110		HLDR,LOCK 2
42	87-NF4-216-010		HLDR,LOCK 1
43	82-NF5-219-010		SPR-T,EJECT 2 (SIN)
44	82-NF5-218-010		SPR-T,EJECT 1 (SIN)
45	87-064-185-010		HLDR,WIRE
46	88-NF5-208-010		HLDR,PWB-M N
47	8Z-NF3-224-010		HLDR,HT-SINK 1
48	8Z-NF3-228-010		HLDR,HT-SINK R
49	8Z-NF3-029-010		PANEL,REAR
50	84-ZG1-245-210		CAP,OPTICAL
51	8Z-NF3-024-010		CABI,BOTTOM
52	8Z-NF3-048-010		COVER, BOTTOM
53	8Z-NFP-011-010		CABI,REAR LHSTNM<LH>
53	8Z-NFP-010-010		CABI,REAR USTNM<U>
54	87-A91-080-010		FAN, F614R-12MC-19-400MM
55	8Z-NF3-229-110		HLDR,FAN 4CH
56	8Z-NF3-227-010		HLDR,PWB PT
57	87-NF4-221-010		HLDR,CABLE
⚠ 58	87-A80-092-010		AC CORD ASSY,E BLK SUN FAI<LH>
⚠ 58	87-A80-110-010		AC CORD ASSY,U SPT-2W<U>
59	87-A90-562-010		F-BEAD,9.5-17.5-28.5 BRH
60	8Z-NF3-009-010		CABI,STEEL<LH>
60	8Z-NF3-008-010		CABI,STEEL U<U>
61	87-085-185-010		BUSHING, AC CORD (E)<LH>
61	87-085-189-010		BUSHING, CORD (U)<U>
62	87-NB6-212-010		GUIDE,LED L IND
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-721-096-410		QT2+3-10
C	87-067-581-010		BVT2+3-15 W/O SLOT
D	87-721-097-410		QT2+3-12 GLD
E	87-067-688-010		BVTT+3-6
F	87-591-095-410		TAPPING SCREW, QIT+3-8 (GLD)
G	87-067-579-010		BVT2+3-8 W/O SLOT
H	87-067-680-010		BVI T3+3-10
J	87-067-584-010		TAPPING SCREW, BVT2+3-6
K	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
L	87-067-698-010		BVT2+3-18 W/O SLOT
M	87-067-975-010		S-SCREW,IT+4-8
N	87-067-641-010		UTT2+3-8(W/O SLOT)BL

SPRING APPLICATION POSITION

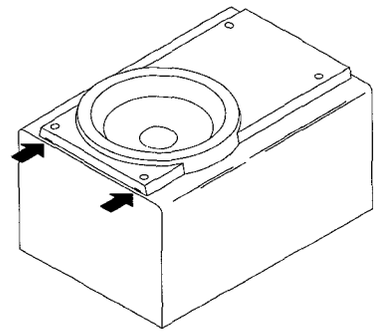




SPEAKER DISASSEMBLY INSTRUCTIONS

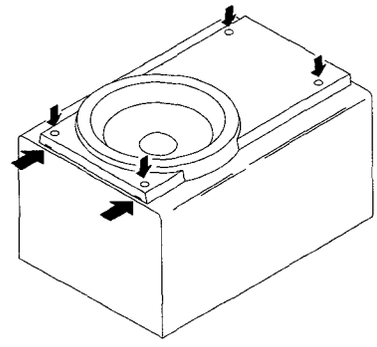
Type.1

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



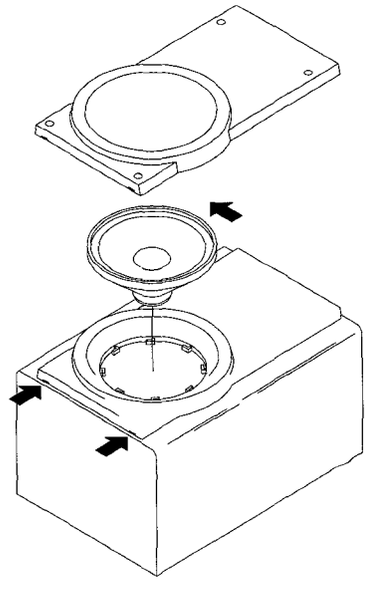
Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units. Insert a flat-bladed screwdriver into the position indicated by the

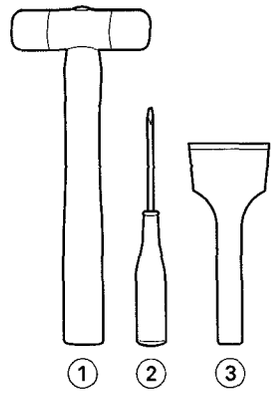


Type.3

arrows and remove the panel. Turn the speaker unit to counterclockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction untill "click" sound comes out.



Type.4



TOOLS

① Plastic head hammer
② (⊖) flat head screwdriver
③ Cut chisel

How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.

2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.

3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

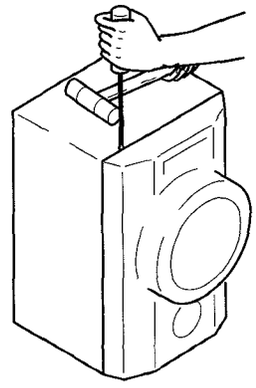


Fig-1

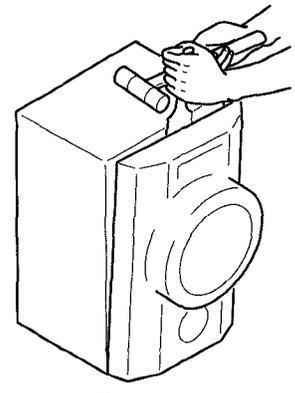


Fig-2

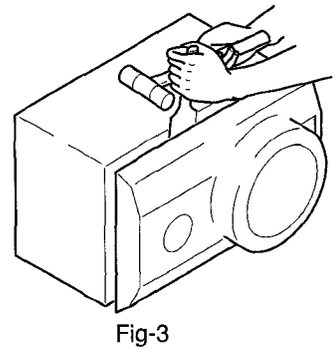


Fig-3

How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

SPEAKER (SX-NDT8<YUST>/NT8<YLST>) PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-NSD-001-010		PANEL,FR L
2	8Z-NSD-002-010		PANEL,FR R
3	8Z-NSD-004-010		GRILLE,FRAME ASSY
4	8Z-NSD-007-010		PROTECTOR, TW
5	87-NS7-611-010		CORD,SPKR
6	88-NSG-610-010		SPKR, CERAMIC ASSY
7	87-NSE-602-010		SPKR,W 160
8	87-NSE-604-010		SPKR,T 80

SPEAKER (SX-R275<YUST>) PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-YS1-004-010		GRILLE,FRAME ASSY
2	87-YS1-001-010		CABI,REAR
3	81-VSA-009-010		CORD,BUSH
4	87-010-384-010		CAP,E 100-25 M SME
5	87-YS6-002-010		SPKR,CORD Y
6	87-YS6-601-010		SPKR,100

SPEAKER (SX-C605<YUST>) PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-YS3-001-010		PANEL,FR ST
2	87-YS3-002-010		PANEL,REAR ST
3	81-VSA-009-010		CORD,BUSH
4	87-YS3-003-010		GRILLE,FRAME ASSY
5	83-NSM-010-010		SPKR,CORD
6	87-YS7-604-010		SPKR,100

SPEAKER (SX-CR677 <YSTC>) PARTS LIST

NOTE: This SX-CR677 speaker contains SX-C607 (center speaker) and SX-R277 (rear speaker).

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-YS1-002-010		GRILLE,FRAME ASSY
2	81-VSA-009-010		CORD BUSH
3	8Z-YS1-601-010		SPKR, 100
4	87-YS6-002-010		SPKR, CORD Y
5	87-YS7-012-010		PANEL,FR S
6	87-010-384-010		CAP,E 100-25 SME
7	87-YS3-003-010		GRILL FRAME ASSY(C600)
8	81-VSA-009-010		CORD BUSH
9	87-YS7-602-010		SPKR, 100
10	83-NSM-010-010		SPEAKER CORD

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-NFP-901-010		IB,U(ESF)M<U>
1	8Z-NFP-902-010		IB,H(ECA)M<LH>
2	87-006-225-010		AM LOOP ANT NC2
3	87-043-115-010		ANT FEEDER FM
4	8Z-NFV-702-010		RC UNIT,RC-ZAS05
⚠ 5	87-A91-017-010		PLUG,CONVERSION JT-0476

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

アイワ株式会社
AIWA CO.,LTD.

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Tokyo Japan

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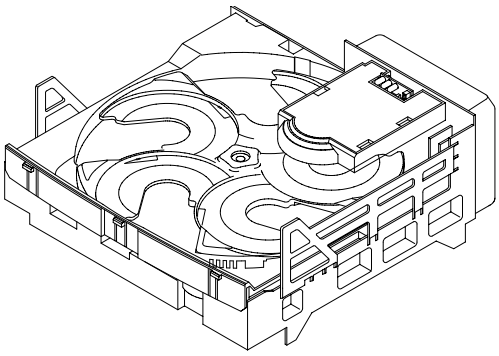
6ZG-1

English



SERVICE MANUAL

CD-R/RW MECHANISM

BASIC CD MECHANISM :3ZG-2 E2

TYPE
ZRDM
ZRNDM
YZRNDM
YZRNDCM

aiwa

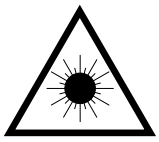
S/M Code No. 09-001-338-7N2

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

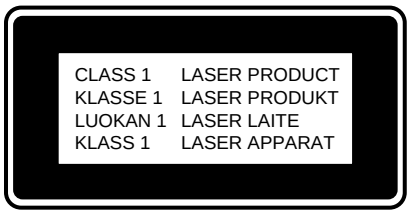
ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

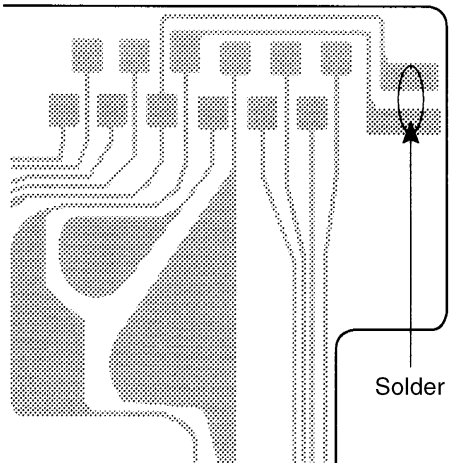


Precaution to replace Optical block (KSS-213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

PICK-UP Assy P.C.B



DISASSEMBLY INSTRUCTIONS

1. How to replace PICK UP.

1) Open the TRAY.
   Push the stopper to arrow direction and release half of the SHAFT SLED.
2) Turn GEAR MAIN CAM to the counterclockwise (arrow “a”) direction, and lift up CD mechanism. (Fig-1)
3) Remove SHAFT SLED.
4) CD mechanism in down position, replace PICK UP.
5) Lift up CD mechanism (Fig-1), and Reassemble the SHAFT SLED.

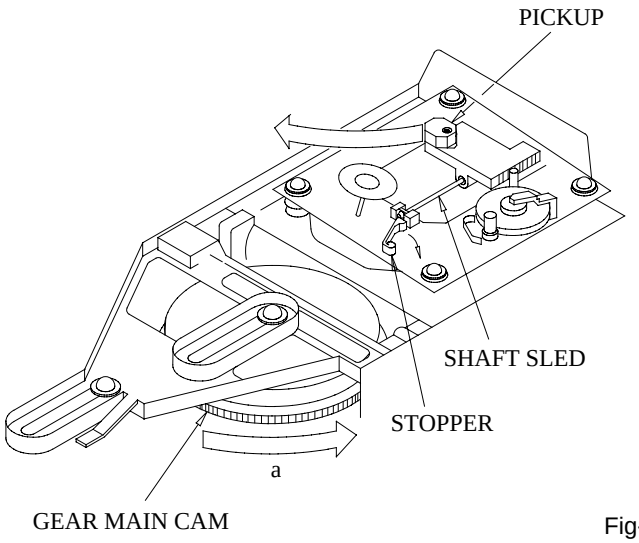
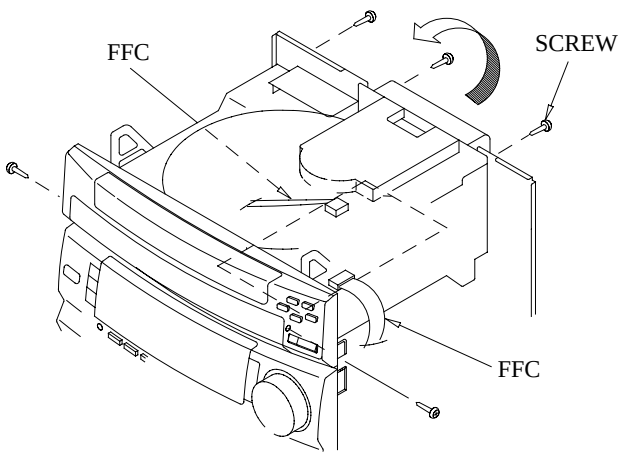


Fig-1

2. How to remove the 5CD CHANGER BLOCK (Fig-2)

1) Remove the two FFC of the CD circuit board, and remove the five SCREWS.
2) Lift 5 CD CHANGER BLOCK from behind, and remove it. (5CD CHANGER BLOCK can be removed even if PANEL TRAY is not removed.)



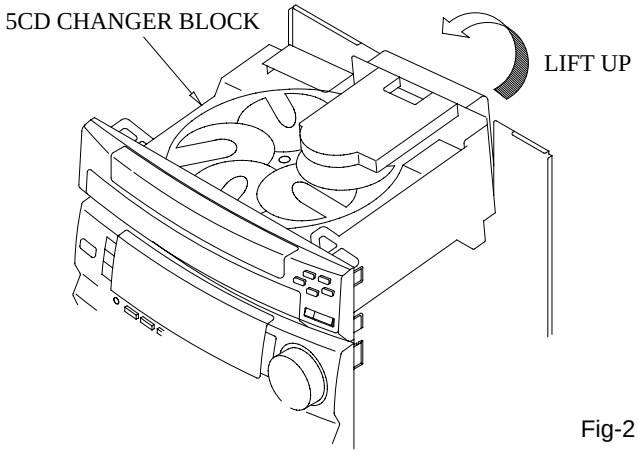
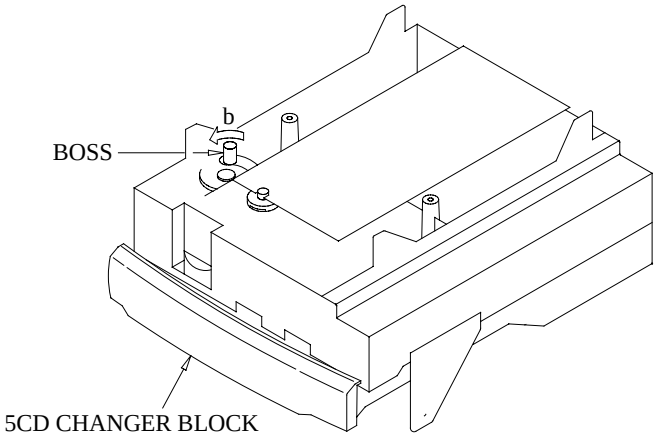


Fig-2

3. The disassemble and reassemble the TRAY

3-1. Disassembling procedure.

1) Push the PLATE GEAR'S Boss at the bottom part of CHAS MECHA strongly to the outside (arrow "b" direction). (Fig-3)
   (Confirm that TRAY appears a little in the front.)
2) Draw TRAY to the open position.
3) Remove FFC, and push the two LEVERS at both side of the CHAS MECH to remove TRAY. (Fig-4)



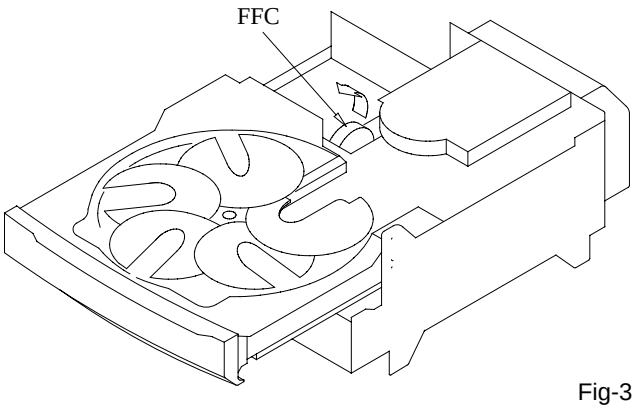


Fig-3

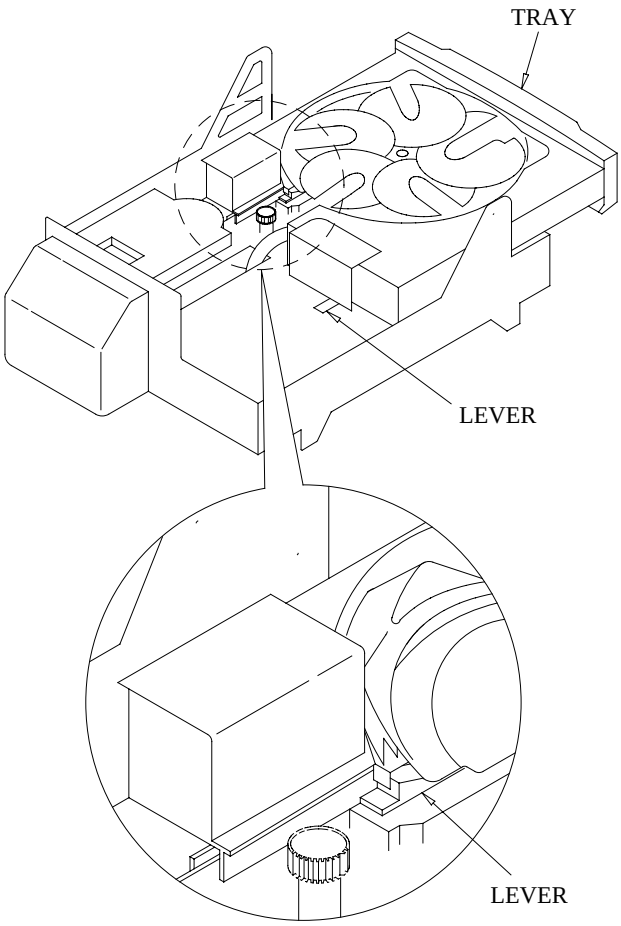


Fig-4

3-2. Reassembling procedure.

1) Confirm that LEVER TRAY is at the most right position and check for the CD Mechanism to be in the down position. (Fig-5)
2) Push in the TRAY along the rail of the CHAS MECHA.
3) After TRAY is half closed and FFC is put in, it can enter by force until the end of TRAY closed. (Fig-6)

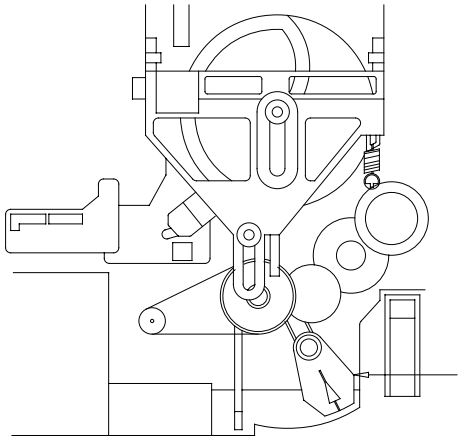


Fig-5

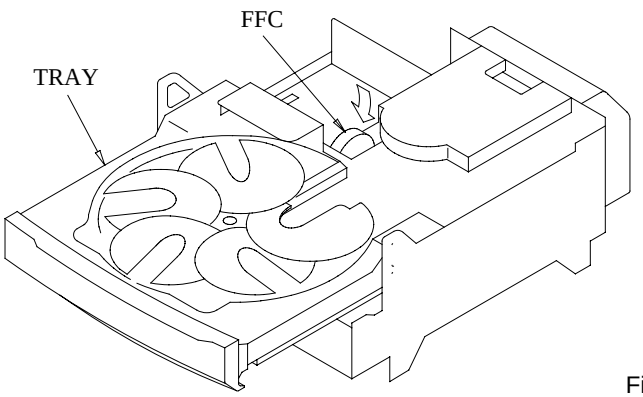


Fig-6

4. How to reassemble the TURN TABLE. (Fig-7)

1) Push LEVER TT in the direction of “C”, and put in the TURN TABLE 5CD. (Fig-7)
After reassembly, one of the TURN TABLE DISC TRAY (can be either one of the five disc trays) must be aligned with TURN TABLE 5CD. (Fig-8)
That is, having no gap difference between the TURN TABLE 5CD and the TRAY 5CD.

* When reassembling the TURN TABLE 5CD, it is acceptable facing any CD number (1-5).

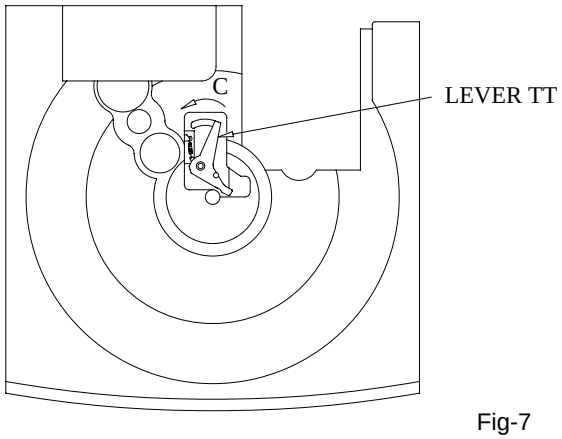


Fig-7

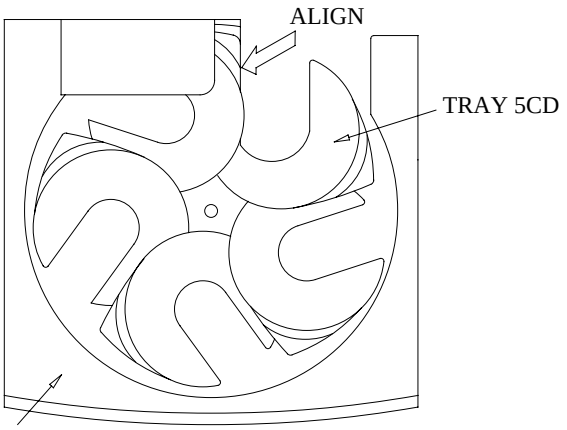


Fig-8

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

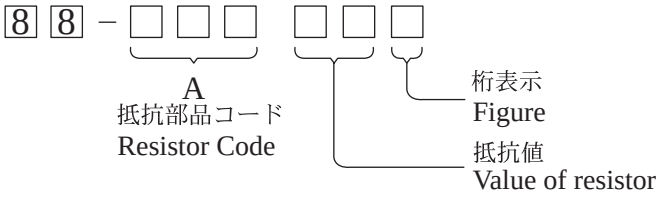
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A21-381-040		C-IC,LA9235M
	87-A21-591-010		C-IC,LC78641NE-D
	87-001-982-010		IC,TA7291S
	87-A21-513-040		C-IC,BA6998FP
TRANSISTOR			
	87-026-609-080		TR,KTA1266GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-318-080		TR,CSA952K
	89-421-722-380		TR,2SD2172V/W
	89-320-011-080		TR,2SC2001 (15W)
	87-026-223-080		TR,DTC143TK
	87-A30-031-010		P-TR,PT380F
	87-026-608-080		C-TR,DTC 123 JK<ZRDM>
	87-A30-075-080		C-TR,2SA1235F
DIODE			
	87-A40-003-080		ZENER,MTZJ4.3A
	87-A40-509-080		ZENER,MTZJ6.8C
	87-A40-313-080		C-DIODE,MC 2840
	87-020-465-080		DIODE,1SS133 (110MA)
5CD C.B			
C1	87-010-374-080		CAP, ELECT 47-10V
C2	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C2	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C3	87-010-553-080		CAP,E 47-16
C4	87-010-260-080		CAP, ELECT 47-25V
C5	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C5	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C6	87-010-405-080		CAP, ELECT 10-50V
C7	87-010-263-080		CAP, ELECT 100-10V
C8	87-010-178-020		C-CAP,S 1000-50 B<ZRNDM,YZRNDM>
C8	87-010-178-080		CHIP CAP 1000P<YZRNDCM,ZRDM>
C10	87-010-069-080		CAP,E 0.33-50 5L
C11	87-010-071-080		CAP, ELECT 1-50 M 5L SRE
C13	87-010-321-020		C-CAP,S 82P-50 CH<ZRNDM,YZRNDM>
C13	87-010-321-080		CHIP CAPACITOR,82P(J) <YZRNDCM,ZRDM>
C15	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C15	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C16	87-010-553-080		CAP,E 47-16
C65	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C65	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C75	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C75	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C101	87-010-194-080		CAP, CHIP 0.047
C102	87-010-071-080		CAP, ELECT 1-50 M 5L SRE
C103	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C103	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C104	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C104	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C105	87-010-260-080		CAP, ELECT 47-25V
C106	87-010-322-020		C-CAP,S 100P-50 CH<ZRNDM,YZRNDM>
C106	87-010-322-080		C-CAP,S 100P-50 CH<YZRNDCM,ZRDM>
C107	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C107	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C109	87-010-194-080		CAP, CHIP 0.047
C110	87-010-322-020		C-CAP,S 100P-50 CH<ZRNDM,YZRNDM>
C110	87-010-322-080		C-CAP,S 100P-50 CH<YZRNDCM,ZRDM>
C111	87-010-260-080		CAP, ELECT 47-25V
C112	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C112	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C114	87-010-553-080		CAP,E 47-16
C115	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C115	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C116	87-010-260-080		CAP, ELECT 47-25V
C117	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C117	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C118	87-010-264-080		CAP,E 100-10 5L
C119	87-015-819-080		CAPACITOR,0.01
C120	87-010-312-020		C-CAP,S 15P-50 J CH<ZRNDM,YZRNDM>
C120	87-010-312-080		C-CAP,S 15P-50 CH<YZRNDCM,ZRDM>
C121	87-010-312-020		C-CAP,S 15P-50 J CH<ZRNDM,YZRNDM>
C121	87-010-312-080		C-CAP,S 15P-50 CH<YZRNDCM,ZRDM>
C123	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C123	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C124	87-010-071-080		CAP, ELECT 1-50 M 5L SRE
C126	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C126	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C130	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C130	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C132	87-010-405-080		CAP, ELECT 10-50V
C133	87-010-314-020		C-CAP,S 22P-50 CH<ZRNDM,YZRNDM>
C133	87-010-314-080		C-CAP,S 22P-50V<YZRNDCM,ZRDM>
C140	87-010-322-020		C-CAP,S 100P-50 CH<ZRNDM,YZRNDM>
C140	87-010-322-080		C-CAP,S 100P-50 CH<YZRNDCM,ZRDM>
C151	87-010-405-080		CAP, ELECT 10-50V
C152	87-010-415-080		CAP ELE SRE 10-50V
C201	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C201	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C202	87-010-382-080		CAP, ELECT 22-25V
C203	87-010-318-020		C-CAP,S 47P-50 CH<ZRNDM,YZRNDM>
C203	87-010-318-080		C-CAP,S 47P-50 CH<YZRNDCM,ZRDM>
C204	87-010-318-020		C-CAP,S 47P-50 CH<ZRNDM,YZRNDM>
C204	87-010-318-080		C-CAP,S 47P-50 CH<YZRNDCM,ZRDM>
C205	87-010-178-020		C-CAP,S 1000-50 B<ZRNDM,YZRNDM>
C205	87-010-178-080		CHIP CAP 1000P<YZRNDCM,ZRDM>
C206	87-010-322-020		C-CAP,S 100P-50 CH<ZRNDM,YZRNDM>
C206	87-010-322-080		C-CAP,S 100P-50 CH<YZRNDCM,ZRDM>
C207	87-012-156-020		C-CAP,S 220P-50 CH<ZRNDM,YZRNDM>
C207	87-012-156-080		C-CAP,S 220P-50 CH<YZRNDCM,ZRDM>
C211	87-010-260-080		CAP, ELECT 47-25V
C220	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C220	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C230	87-010-178-020		C-CAP,S 1000-50 B<ZRNDM,YZRNDM>
C230	87-010-178-080		CHIP CAP 1000P<YZRNDCM,ZRDM>
C351	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C351	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C352	87-016-251-040		CAP,E 220-16 SMG
C353	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C353	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C361	87-010-403-080		CAP, ELECT 3.3-50V
C362	87-010-403-080		CAP, ELECT 3.3-50V
C501	87-016-459-040		CAP,E 470-10 SMG
C502	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C502	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C503	87-010-263-080		CAP, ELECT 100-10V
C504	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C504	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C505	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C505	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C506	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C506	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C507	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C507	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C508	87-010-073-080		CAP,E 3.3-50 5L
C509	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C509	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C510	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C510	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C511	87-016-459-040		CAP,E 470-10 SMG
C520	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C520	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C901	87-010-260-040		CAP,E 47-25 SME
C902	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C902	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
CN1	87-A60-424-010		CONN,16P V TOC-B
CN202	87-A60-154-010		CONN,6P H FE
CN231	87-A60-162-010		CONN,14P H FE
CON2	87-A60-623-010		CONN,6P V 2MM JMT
CON3	87-A60-133-010		CONN,8P V FE
L501	87-003-102-080		COIL, 10UH
LED901	87-A40-558-010		LED,SLZ-8128A-01-A
M601	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
⚠PR201	87-026-689-080		PROTECTOR,1A 60V 491
⚠PR350	87-A90-246-080		PROTECTOR,0.25A 60 4
S353	87-036-109-010		PUSH SWITCH
SW351	87-036-109-010		PUSH SWITCH
SW352	87-036-109-010		PUSH SWITCH
X101	87-030-270-080		VIB,XTAL 16.9344MHZ
LED C.B<ZRDM>			
LED701	87-017-733-080		LED,SEL1250SM<ZRDM>
LED702	87-017-350-080		LED,SEL1550CM<ZRDM>
LED703	87-017-733-080		LED,SEL1250SM<ZRDM>
T-T C.B			
C411	87-A11-148-080		CAP,TC U 0.1-50 Z F
CON8	87-A60-156-010		CONN,8P H FE
LED411	87-070-288-010		LED,GL380
M401	87-A90-036-010		MOT ASSY,RF-300CA-11
PS401	87-A90-156-010		SNSR,SG-240
S401	87-036-109-010		PUSH SWITCH
CD MOTOR C.B			
M20	87-045-358-010		MOT,RF-310TA 43
M21	87-045-356-010		MOT,RF-310TA 30
PIN3	87-A60-670-010		CONN,6P H 2MM JMT
SW1	87-A90-042-010		SW,LEAF MSW-17310MVP0

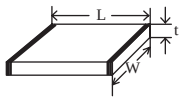
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

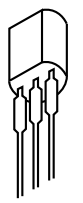
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

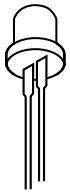
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

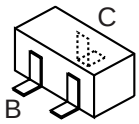


KTA1266

2SC2001
2SD2172



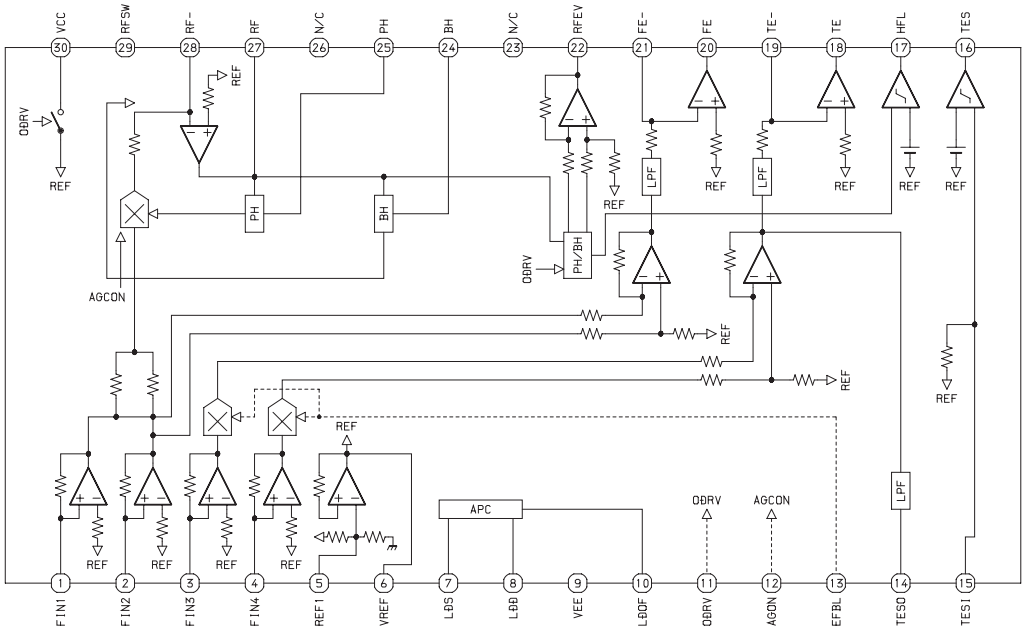
PT380F



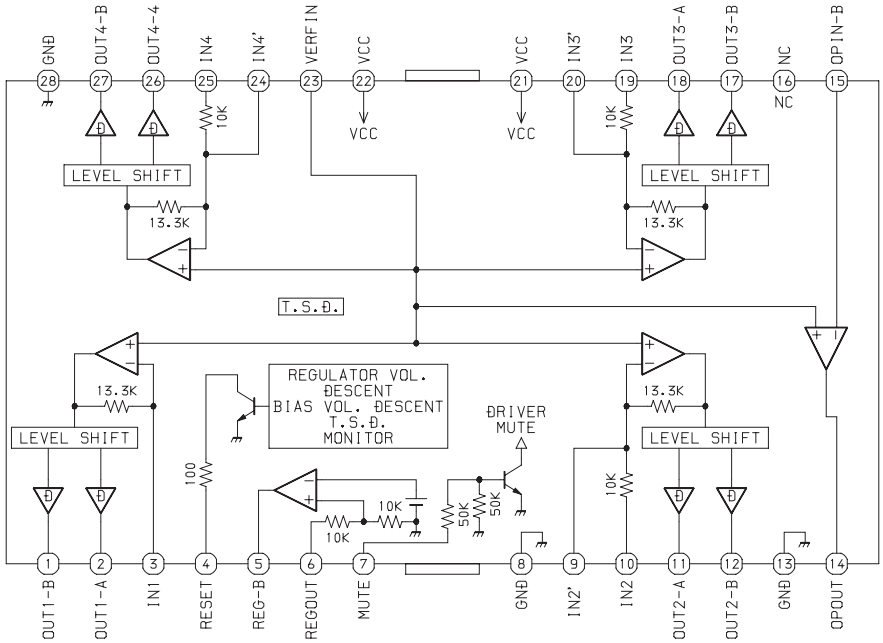
2SA1235
2SC3052
CSA952K
DTC123JK
DTC143TK

IC BLOCK DIAGRAM

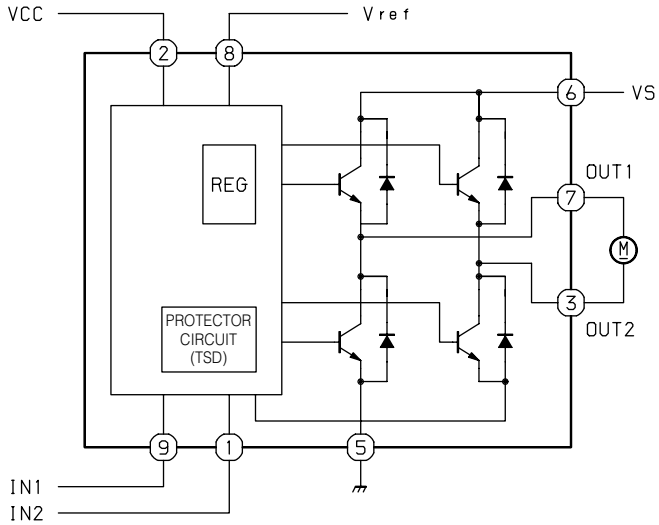
IC, LA9235M



IC, BA6998FP



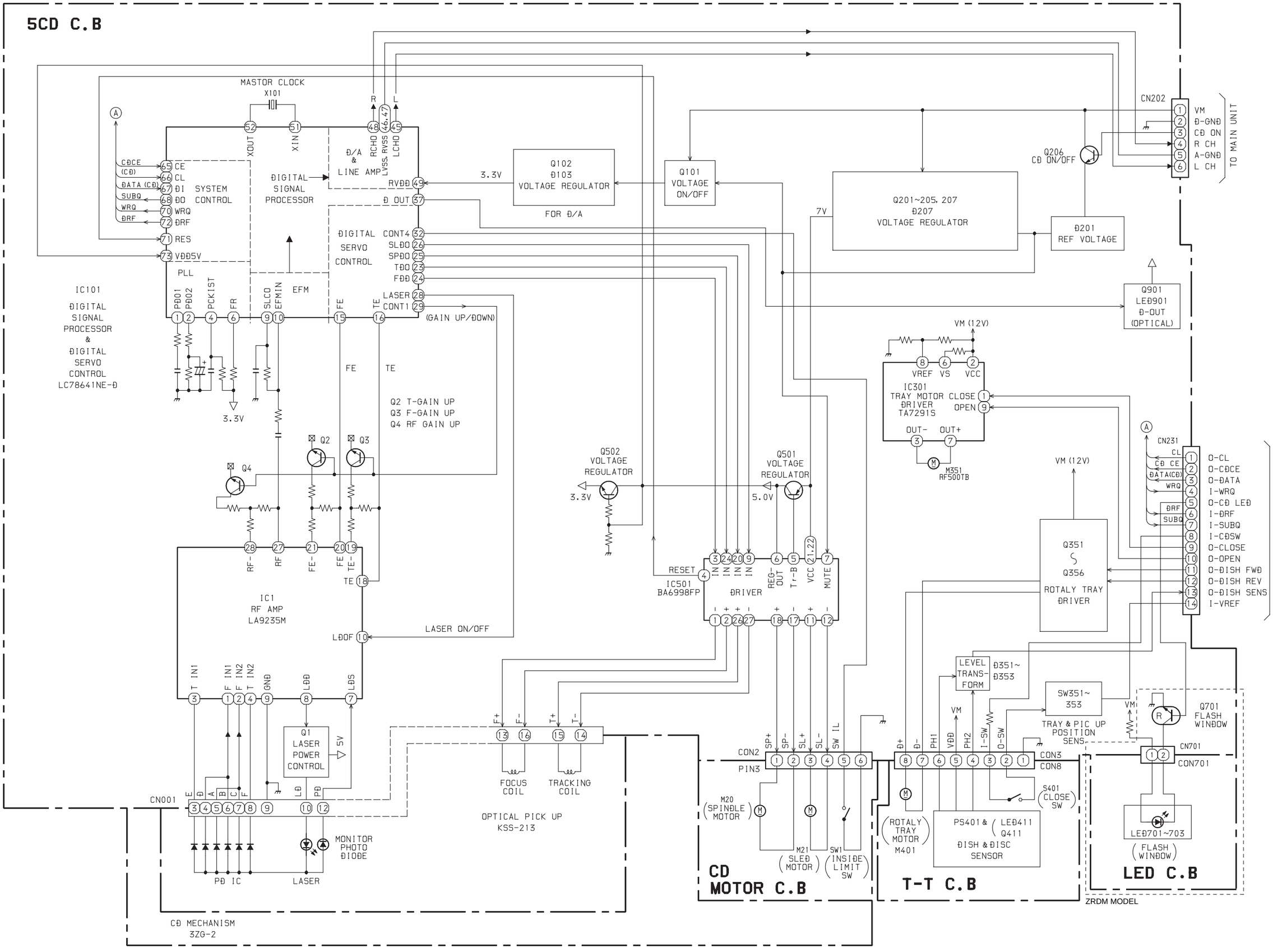
IC, TA7291S



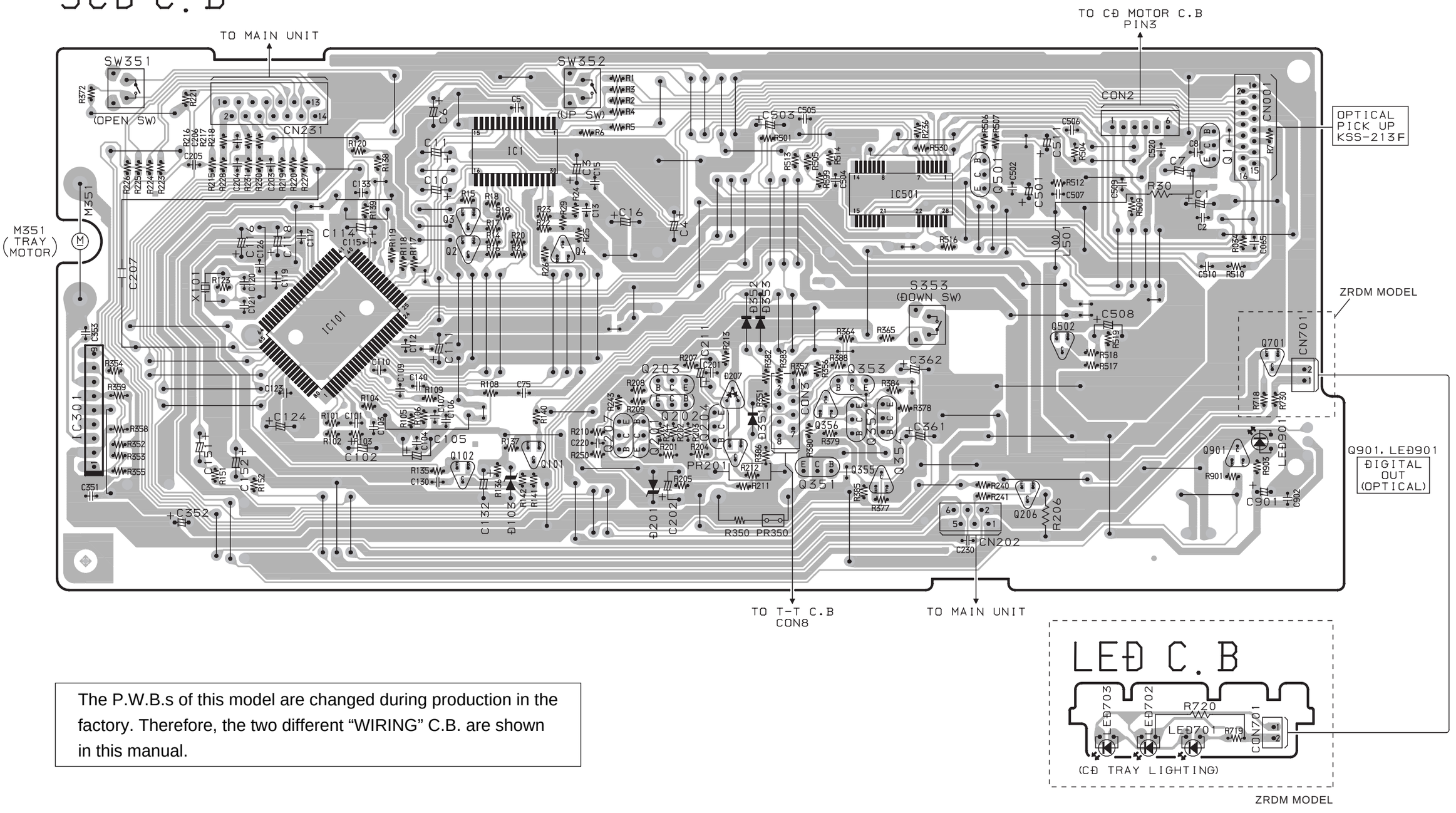
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

∞ : HI IMPEDANCE

NOTE : INPUT "H" ACTIVE


5CD C.B
MASTOR CLOCK
X101
XOUT
XIN
Đ/A & LINE AMP
RCHO
LVSS, RVSS
LCHO
R
L
CN202
VM
Đ-GNĐ
CĐ ON
R CH
A-GNĐ
L CH
TO MAIN UNIT
Q206
CĐ ON/OFF
CĐCE
(CĐ)
ĐATA (CĐ)
SUBQ
WRQ
ĐRF
CE
CL
ĐI
ĐO
WRQ
ĐRF
SYSTEM CONTROL
RES
VĐĐ5V
ĐIGITAL SIGNAL PROCESSOR
RVĐĐ
Đ OUT
3.3V
Q102
Đ103
VOLTAGE REGULATOR
FOR Đ/A
Q101
VOLTAGE ON/OFF
7V
Q201~205, 207
Đ207
VOLTAGE REGULATOR
Đ201
REF VOLTAGE
ĐIGITAL SERVO CONTROL
CONT4
SLĐO
SPĐO
TĐO
FĐĐ
LASER
CONT1
(GAIN UP/ĐOWN)
Q901
LEĐ901
Đ-OUT
(OPTICAL)
IC101
ĐIGITAL SIGNAL PROCESSOR & ĐIGITAL SERVO CONTROL LC78641NE-Đ
PLL
EFM
PĐO1
PĐO2
PCK1ST
FR
SLCO
EFMIN
FE
TE
3.3V
FE
TE
Q2 T-GAIN UP
Q3 F-GAIN UP
Q4 RF GAIN UP
Q2
Q3
Q4
VM (12V)
VREF
VS
VCC
IC301
TRAY MOTOR ĐRIVER
TA7291S
CLOSE
OPEN
OUT-
OUT+
M351
RF500TB
CN231
CL
CĐ CE
ĐATA(CĐ)
WRQ
ĐRF
SUBQ
O-CL
O-CĐCE
O-ĐATA
I-WRQ
O-CĐ LEĐ
I-ĐRF
I-SUBQ
I-CĐSW
O-CLOSE
O-OPEN
O-ĐISH FWĐ
O-ĐISH REV
O-ĐISH SENS
I-VREF
Q502
VOLTAGE REGULATOR
3.3V
Q501
VOLTAGE REGULATOR
5.0V
VM (12V)
Q351
Q356
ROTALY TRAY ĐRIVER
RESET
IC501
BA6998FP
ĐRIVER
IN1
IN2
IN3
IN4
REG-OUT
Tr-B
VCC
MUTE
RF-
RF
FE-
FE
TE-
TE
IC1
RF AMP
LA9235M
LĐOF
LASER ON/OFF
T IN1
F IN1
F IN2
T IN2
GNĐ
LĐĐ
LĐS
Q1
LASER POWER CONTROL
5V
F+
F-
T+
T-
FOCUS COIL
TRACKING COIL
OPTICAL PICK UP
KSS-213
CN001
E
Đ
A
B
C
F
LĐ
PĐ
PĐ IC
LASER
MONITOR PHOTO ĐIOĐE
CĐ MECHANISM
3ZG-2
CON2
PIN3
SP+
SP-
SL+
SL-
SW IL
M20
SPINĐLE MOTOR
M21
SLEĐ MOTOR
SW1
INSIĐE LIMIT SW
CD MOTOR C.B
Đ+
Đ-
PH1
VĐĐ
PH2
I-SW
O-SW
CON3
CON8
LEVEL TRANS-FORM
Đ351~ Đ353
SW351~ 353
TRAY & PIC UP POSITION SENS
S401
CLOSE SW
ROTALY TRAY MOTOR
M401
PS401 & ĐISH & ĐISC SENSOR
LEĐ411
Q411
T-T C.B
VM
Q701
FLASH WINĐOW
CN701
CON701
LEĐ701~703
(FLASH WINĐOW)
LED C.B
ZRDM MODEL

5CD C.B



The P.W.B.s of this model are changed during production in the factory. Therefore, the two different “WIRING” C.B. are shown in this manual.

5CĐ C.B

TO MAIN UNIT

TO CĐ MOTOR C.B
PIN3

SW351
(OPEN SW)

SW352
(UP SW)

CN231

CON2

CN001

OPTICAL
PICK UP
KSS-213F

M351

M351
TRAY
(MOTOR)

IC1

IC101

IC501

X101

S353
(ĐOWN SW)

ZRDM MODEL

CN701

Q901, LEĐ901
ĐIGITAL
OUT
(OPTICAL)

IC301

Q203

Q202

Q201

Q207

Q204

Q353

Q356

Q354

Q355

Q351

Q502

Q501

Q701

Q901

Q102

Q101

Q206

CON3

CN202

FB201

FB202

FB203

FB902

FB901

PR201

PR350

R350

C352

C230

TO T-T C.B
CON8

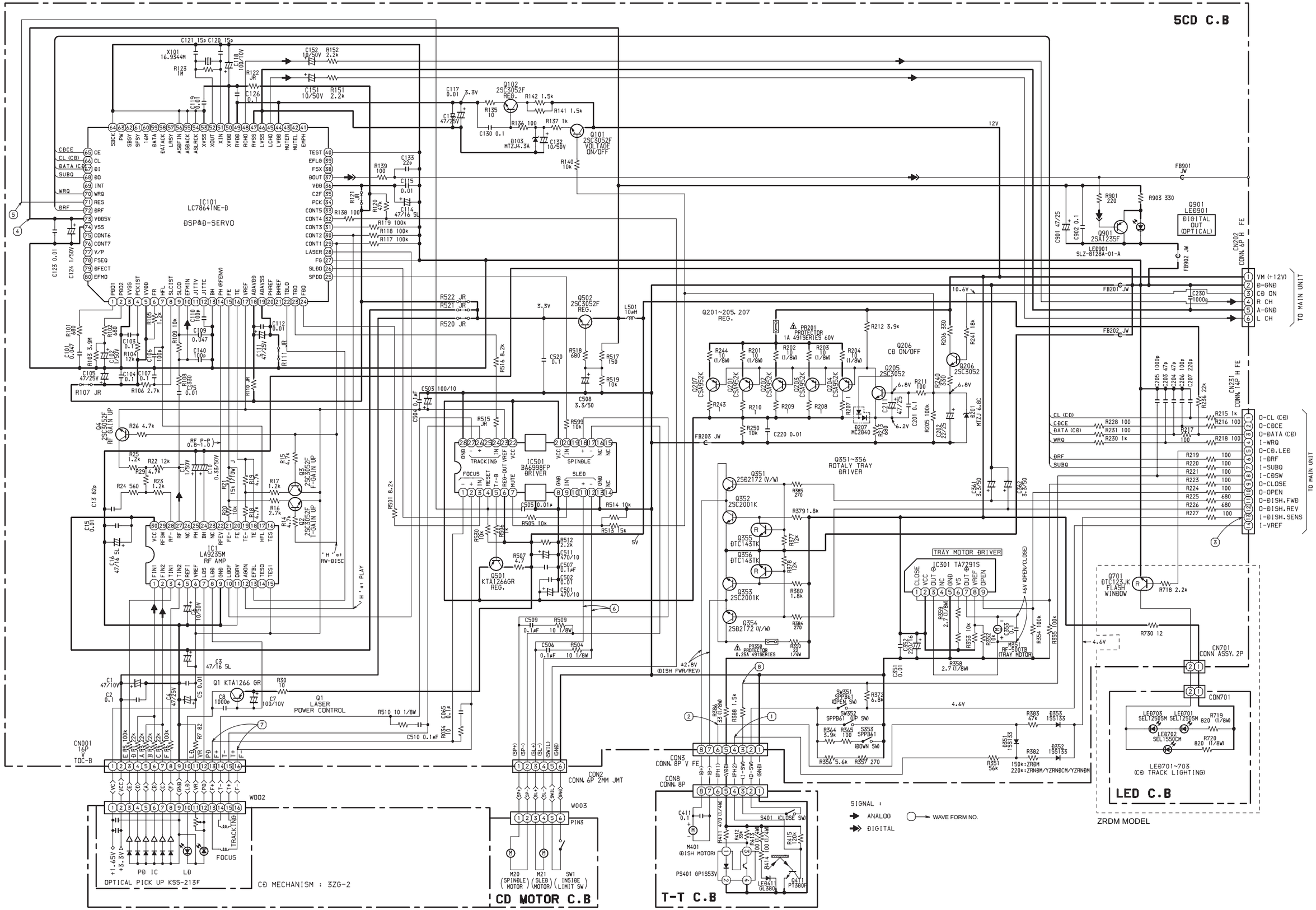
TO MAIN UNIT

The P.W.B.s of this model are changed during production in the factory. Therefore, the two different “WIRING” C.B. are shown in this manual.

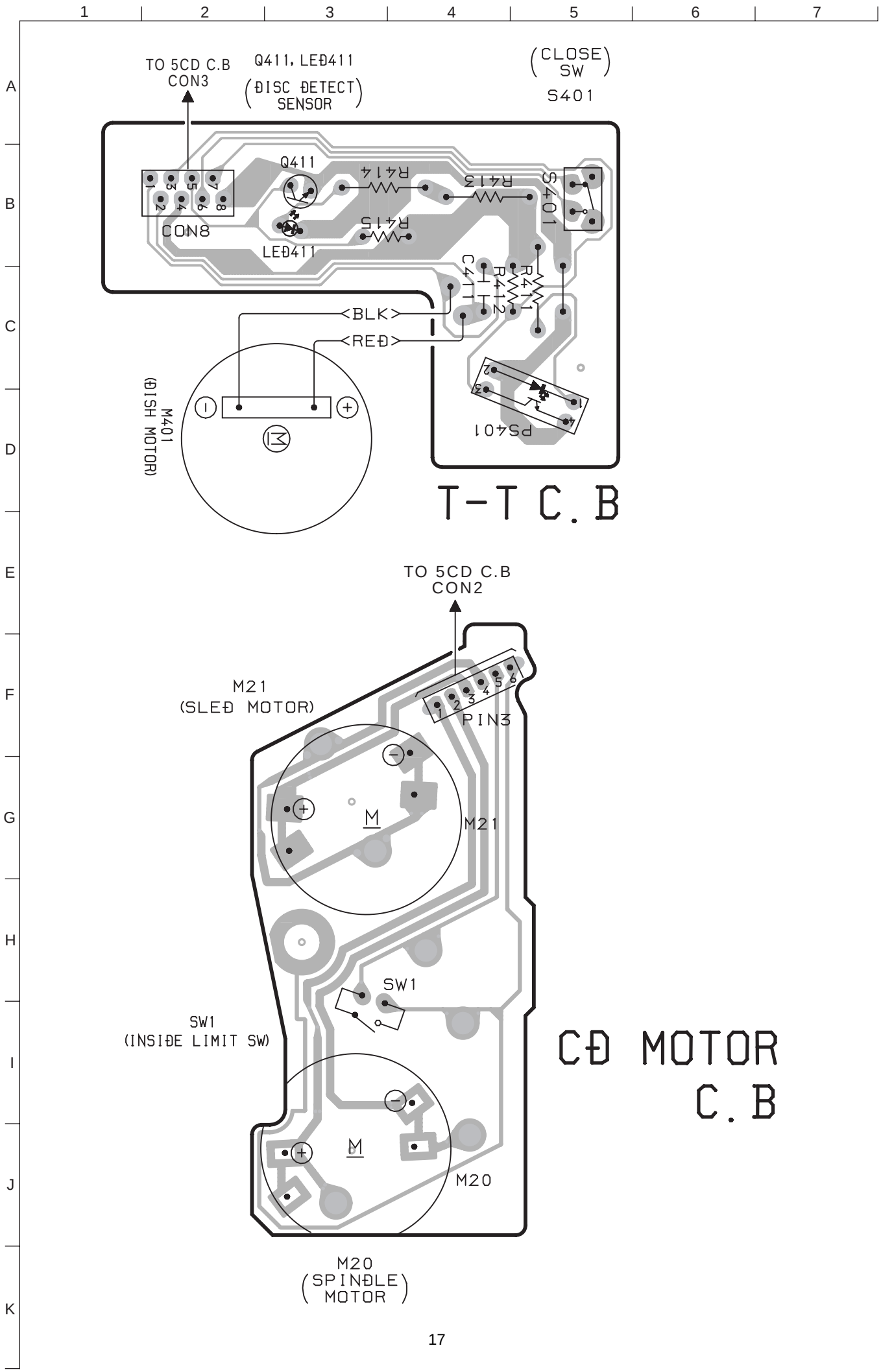
LEĐ C.B

LEĐ703
LEĐ702
LEĐ701
R720
R719
CN701
(CĐ TRAY LIGHTING)

ZRDM MODEL


5CD C.B
IC101
LC78641NE-Ð
ÐSP&Ð-SERVO
IC LA9235M
RF AMP
RF-DISC
H : at PLAY
OPTICAL PICK UP KSS-213F
CÐ MECHANISM : 3ZG-2
PÐ IC
LÐ
TRACKING
FOCUS
IC501
BA6998FP
ÐRIVER
SPINDLE
SLED
TRACKING
FOCUS
M20
(SPINDLE)
MOTOR
M21
(SLED)
MOTOR
SW1
INSIDE
LIMIT SW
CD MOTOR C.B
Q1
LASER
POWER CONTROL
Q1 KTA1266 GR
Q501
KTA1266GR
REG.
Q502
2SC3052F
REG.
Q101
2SC3052F
VOLTAGE
ON/OFF
Q102
2SC3052F
REG.
Q201~205, 207
REG.
Q206
CÐ ON/OFF
Q205
2SC3052
Q206
2SC3052
Q207
CSA952K
Q201
CSA952K
Q202
CSA952K
Q203
CSA952K
Q204
CSA952K
PR201
PROTECTOR
1A 491SERIES 60V
Q351~356
ROTALY TRAY
ÐRIVER
Q351
2SD2172 (V/W)
Q352
2SC2001K
Q355
ÐTC143TK
Q356
ÐTC143TK
Q353
2SC2001K
Q354
2SD2172 (V/W)
PR350
PROTECTOR
0.25A 491SERIES
TRAY MOTOR ÐRIVER
IC301 TA7291S
M351
RF-500TB
(TRAY MOTOR)
Q901
LED901
ÐIGITAL
OUT
(OPTICAL)
Q901
2SA1235F
LED901
SLZ-B128A-01-A
Q701
ÐTC123JK
FLASH
WINDOW
LED701~703
(CÐ TRACK LIGHTING)
LED C.B
ZRDM MODEL
CN701
CONN ASSY. 2P
CON701
CN231
CONN 14P H FE
CN202
CONN 6P H FE
TO MAIN UNIT
VM (+12V)
Ð-GNÐ
CÐ ON
R CH
A-GNÐ
L CH
O-CL (CÐ)
O-CBCE
O-ÐATA (CÐ)
I-WRQ
O-CÐ.LEÐ
I-ÐRF
I-SUBQ
I-CÐSW
O-CLOSE
O-OPEN
O-ÐISH.FWÐ
O-ÐISH.REV
I-ÐISH.SENS
I-VREF
CON3
CONN 8P V FE
CON8
CONN 8P
CON2
CONN 6P 2MM JMT
CN001
16P
V
TOC-B
W002
W003
PIN3
T-T C.B
SIGNAL :
ANALOG
ÐIGITAL
WAVE FORM NO.
12V
10.6V
4.6V
3.3V
±2.8V
(ÐISH FWR/REV)
±6V (OPEN/CLOSE)
M401
(ÐISH MOTOR)
PS401 GP1S53V
LED411
GL380
Q411
PT380F

WIRING-2 (T-T/CD MOTOR)



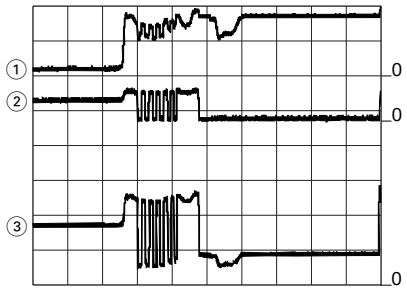
WAVE FORM

① CON3 Pin ④ (PH2) VOLT/DIV: 5V
TIME/DIV: 2S

② CON3 Pin ⑥ (PH1) VOLT/DIV: 10V
TIME/DIV: 2S

③ CN231 Pin ⑬ (I-DISH. SENS) VOLT/DIV: 2V
TIME/DIV: 2S

(NO DISC)

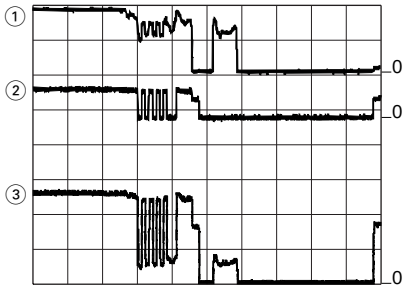


① CON3 Pin ④ (PH2) VOLT/DIV: 5V
TIME/DIV: 2S

② CON3 Pin ⑥ (PH1) VOLT/DIV: 10V
TIME/DIV: 2S

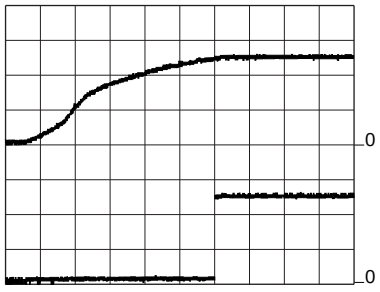
③ CN231 Pin ⑬ (I-DISH. SENS) VOLT/DIV: 2V
TIME/DIV: 2S

(YES DISC)

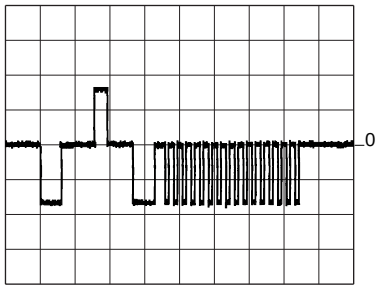


④ IC101 Pin ⑬ VDD5V VOLT/DIV: 2V
TIME/DIV: 5mS

⑤ IC101 Pin ⑪ RES VOLT/DIV: 2V
TIME/DIV: 5mS

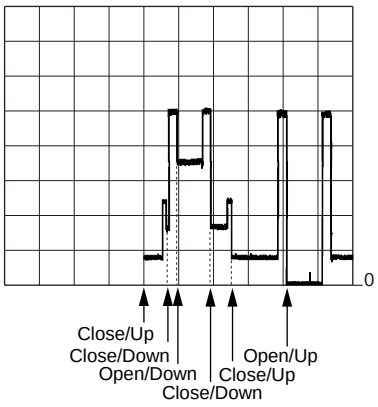


⑥ Between IC501 VOLT/DIV: 1V
Pin ⑪ (SLED+) and ⑫ (SLED–) TIME/DIV: 2S
(Shutter Close)



⑦ Between CN001 VOLT/DIV: 1V
Pin ⑬ (F+) and ⑯ (F–) TIME/DIV: 5S
(Focus Search)

⑧ R388 VOLT/DIV: 1V
TIME/DIV: 5S



TEST MODE

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the CD function button.
   When activating the test mode, “TEST” appears on the screen then all indicators light (start mode).

2. How to Cancel the CD Test Mode
   Press the POWER button or disconnect the AC plug.
   * When pressing any other function key during playback, the test mode is released.

3. Functions and Applications of CD Test Mode

Mode/No.	Operation key	Display	Operation	Check contents
Start mode No.1		All lamps light	• All FLs light	• FL check • Microprocessor check
Search mode No.2	STOP key	CD	• Laser diode always turns ON • Focus search continuos operation *1 • Spindle motor continuos kick	• APC circuit check • Laser current measurement • Focus search waveform check • Focus error waveform check (DPR is ignored during search mode.)
Play mode No.3	PLAY key	Normal	• Normal playback • Focus search is continued if TOC cannot be read.	• Each servo circuit check • DPR check
Traverse mode No.4	PAUSE key	Normal	• Tracking servo OFF/ON Repeats OFF and ON every time the PAUSE key is pressed.	• Tracking balance check
Sled mode No.5	FF key	CD TEST	• Pickup moves to the innermost track *2 The lens is kicked to the innermost track simultaneously.	• Sled circuit check • Tracking circuit check • Mechanism operation check • PU check
	RWD key	CD TEST	• Pickup moves to the outermost track *2 The lens is kicked to the outermost track simultaneously.	
Spindle mode No.6	TAPE REC key	All lamps light	• The spindle motor is rotated forward (rough speed) by pressing the key. It is rotated reverse by pressing the key again. It is stopped by another pressing of the button.	• Spindle circuit check • Spindle motor check
RF AGC mode No.7	TUNER key	AGC ON/OFF	• Repeats ON and OFF every time the TUNER key is pressed. • To return to the start mode display, press the CD key three times.	• PC good or no good check • RF AMP circuit check

*1 ..... There are cases when the focus search cannot be operated owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases turn off the power, wait for a while, then re-start the machine.

*2 ..... To avoid damage to the gears, do not keep pressing the FF or RWD key when the pickup is at the outermost or innermost track, because the sled motor keeps running while the FF or RWD key is pressed when the pick-up is at the outermost or innermost track.

4. Adjustment Result Display of Auto Adjustment Items
The auto adjustment values of the focus and the tracking can be displayed on the screen.

4-1. Auto Adjustment Result Display of Focus Offset Cancel/Gain

1) Set the start mode (all lamps light).
2) Press the TAPE key until “F***” appears. Select ON or OFF of the adjustment items. (Refer to the table below.)
3) Press the PLAY key to play back the CD.
4) Press the CD key.
5) The auto adjustment value “F******” appears on the display. (Refer to the table below.)
6) After checking, press the CD key twice to return to the play mode (normal display).

Adjustment item (ON = 1, OFF = 0)				Auto adjustment value display (* is hexadecimal.)			
F	OFFSET	BIAS	GAIN	F	OFFSET	BIAS	GAIN
F	0	0	0	F	No display	No display	No display
F	1	1	1	F	**	**	**
F	1	1	0	F	**	**	No display
F	1	0	1	F	**	No display	**
F	1	0	0	F	**	No display	No display
F	0	1	1	F	No display	**	**
F	0	1	0	F	No display	**	No display
F	0	0	1	F	No display	No display	**

∗ When nothing is displayed (No display), a blank equal to two characters is created on the display.

4-2. Auto Adjustment Result Display of Tracking Offset Cancel/Balance/Gain

1) Set the start mode (all lamps light).
2) Keep pressing the AUX key until “T***” appears. Select ON or OFF for each adjustment item. (Refer to the table below.)
3) Press the PLAY key to play back the CD.
4) Press the CD key twice.
5) The auto adjustment value “T******” appears on the display. (Refer to the table below.)
6) After checking, press the CD key once to return to the play mode (normal display).

Adjustment item (ON = 1, OFF = 0)				Auto adjustment value display (* is hexadecimal.)			
T	OFFSET	BALANCE	GAIN	F	OFFSET	BALANCE	GAIN
T	0	0	0	T	No display	No display	No display
T	1	1	1	T	**	**	**
T	1	1	0	T	**	**	No display
T	1	0	1	T	**	No display	**
T	1	0	0	T	**	No display	No display
T	0	1	1	T	No display	**	**
T	0	1	0	T	No display	**	No display
T	0	0	1	T	No display	No display	**

∗ When nothing is displayed (No display), a blank equal to two characters is created on the display.

IC DESCRIPTION

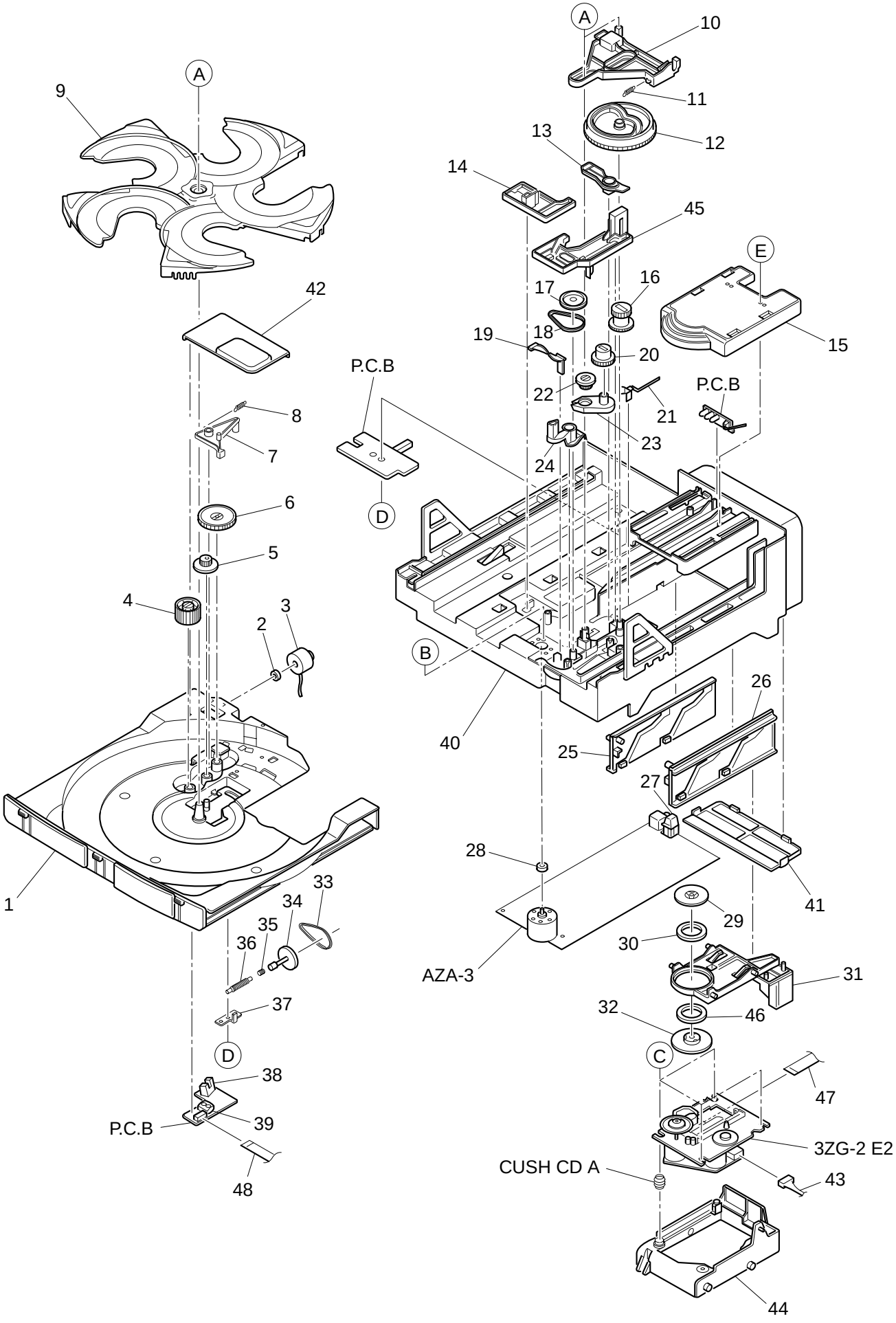
IC, LC78641NE-D

Pin No.	Pin Name	I/O	Description
1	PDO1	O	Internal VCO control phase comparator output pin. (Pull down)
2	PDO2	O	Internal VCO control phase comparator output pin. OFF for rough servo, ON for phase servo. (Pull down)
3	VVSS	—	Internal VCO ground pin.
4	PCKIST	—	PDO output current adjustment resistor connection pin.
5	VVDD	—	Internal VCO power supply pin.
6	FR	—	VCO frequency range adjustment resistor connection pin. (Pull up)
7	HFL	I	Mirror detection signal input pin.
8	SLCIST	—	SLCO output current adjustment resistor connection pin.
9	SLCO	O	Control output.
10	EFMIN	I	EFM signal input pin.
11	JITTV	O	Jitter detection monitor pin. (Not connected)
12	JITTC	O	Jitter detection adjustment pin. (Pull down)
13	BH	I	BH signal input pin. (Connected to GND)
14	PH (RFENV)	I	PH signal or RFENV signal input pin.
15	FE	I	FE signal input pin.
16	TE	I	TE signal input pin.
17	VREF	I	VREF input pin.
18	ADAVDD	—	Servo A/D, D/A power supply pin.
19	ADAVSS	—	Servo A/D, D/A ground pin.
20	PHREF	O	PH reference output pin. (Not connected)
21	BHREF	O	BH reference output pin. (Not connected)
22	TBLO	O	Tracking balance output pin.
23	TDO	O	Tracking control output pin.
24	FDO	O	Focus control output pin.
25	SPDO	O	Spindle control output pin.
26	SLDO	O	Thread control output pin.
27	DVREF/FG	I/O	Output driver VREF output pin. FG signal input pin. (Connected to GND)
28	LASER	O	Laser ON/OFF control pin.
29	CONT1	I/O	General-purpose input/output pin 1. (Connected to GND)
30	CONT2	I/O	General-purpose input/output pin 2. (Connected to GND)
31	CONT3	I/O	General-purpose input/output pin 3. (Connected to GND)
32	CONT4	I/O	General-purpose input/output pin 4.
33	CONT5	I/O	General-purpose input/output pin 5. (Not connected)
34	PCK	O	EFM data playback clock monitor pin. Average 4.3218MHz when the phase is locked. (Not connected)
35	C2F	O	C2 flag output pin. (Not connected)
36	VDD	—	Digital power supply pin.
37	DOUT	O	Digital out output pin. (EIAJ format)
38	FSX	O	Output pin for the 7.35kHz synchronization signal divided from the crystal oscillator. (Not connected)

Pin No.	Pin Name	I/O	Description
39	EFLG	O	C1, C2 error correction monitor pin. (Not connected)
40	TEST	I	Test input pin. (Connected to GND)
41	EMPH	I/O	Emphasis pin. Which becomes an input pin after reset and can be controlled externally. This becomes an emphasis monitor pin under control by command. (Not connected)
42	MUTEL	O	L channel mute output pin. (Not connected)
43	MUTER	O	R channel mute output pin. (Not connected)
44	LVDD	—	L channel power supply pin.
45	LCHO	O	L channel output pin.
46	LVSS	—	L channel ground pin.
47	RVSS	—	R channel ground pin.
48	RCHO	O	R channel output pin.
49	RVDD	—	R channel power supply pin.
50	XVDD	—	Crystal oscillator power supply pin.
51	XIN	I	Connections for a 16.9344MHz crystal oscillator pin.
52	XOUT	O	
53	XVSS	—	Crystal oscillator ground pin.
54	ASLRCK	I	L/R clock input pin. (Connected to GND)
55	ASDACK	I	Bit clock input pin. (Connected to GND)
56	ASDFIN	I	L/R channel data input pin. (Connected to GND)
57	LRSY	O	L/R clock output pin. (Not connected)
58	DATACK	O	Bit clock output pin. (Not connected)
59	DATA	O	L/R channel data output pin. (Not connected)
60	16M	O	16.9344MHz output pin. (Not connected)
61	SFSY	O	Subcode frame synchronization signal output pin. This signal falls when the subcode is in the standby state. (Not connected)
62	SBSY	O	Subcode clock synchronization signal output pin. (Not connected)
63	PW	O	Subcode P, Q, R, S, T, U and W output pin. (Not connected)
64	SBCK	I	Subcode readout clock input pin. (Connected to GND)
65	CE	I	Chip enable signal input pin.
66	CL	I	Data transfer clock input pin.
67	DI	I	Data input pin.
68	DO	O	Data output pin.
69	INT	O	Interruption signal output pin. (Not connected)
70	WRQ	O	Interruption signal output pin.
71	RES	I	Reset input pin. This pin must be set low briefly after power is first applied.
72	DRF	O	Focus ON detect pin.
73	VDD5V	—	Microprocessor interface power supply.
74	VSS	—	Digital ground pin.
75	CONT6	I/O	General-purpose input/output pin 6. (Not connected)
76	CONT7	I/O	General-purpose input/output pin 7. (Not connected)
77	V/P	O	Rough servo/phase control automatic switching monitor output pin. “H” for rough servo and “L” for phase servo. (Not connected)

Pin No.	Pin Name	I/O	Description
78	FSEQ	O	Synchronization signal detection output pin. Outputs a high level when the synchronization signal detected from the EFM signal and the internally generated synchronization signal agree. (Not connected)
79	DEFECT	I/O	Defect pin. Which becomes an input pin after reset and can be controlled externally. This becomes the defect monitor pin under control by command. (Not connected)
80	EFMO	O	EFM signal output pin. (Not connected)

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL PARTS LIST 1/1

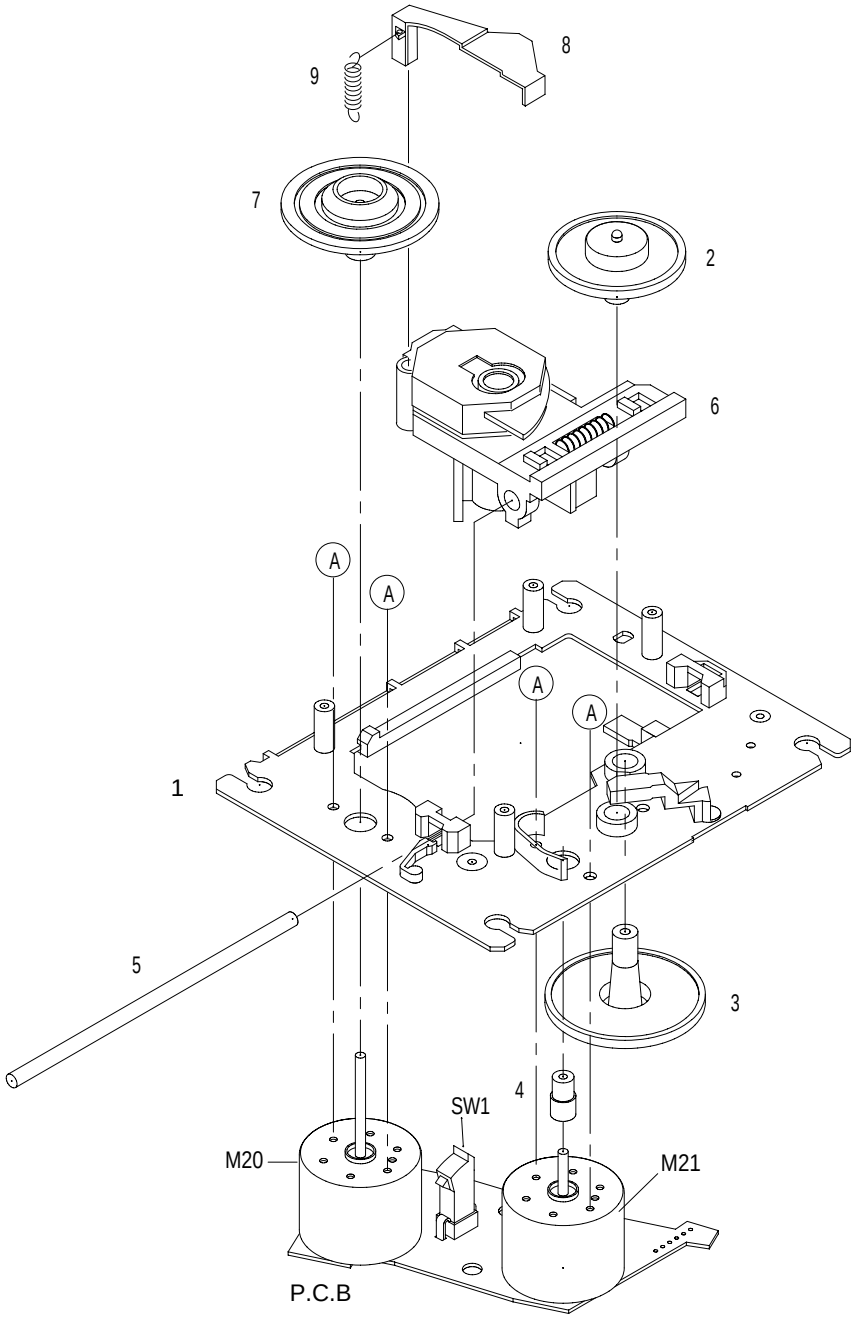
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZG1-001-410		TRAY,5CD
2	84-ZG1-267-010		PULLEY,LOAD MO 8
3	87-A90-036-010		MOT ASSY,RF-300CA-11
4	86-ZG1-228-110		GEAR,TT-B
5	86-ZG1-227-110		GEAR,TT-A
6	86-ZG1-223-110		GEAR,WORM-WHEEL TT
7	86-ZG1-224-110		LEVER,TT(*)
8	86-ZG1-226-010		SPR-E,LEVER TT
9	86-ZG1-002-210		TURN TABLE,5CD
10	86-ZG1-211-210		JOINT,CAM
11	86-ZG1-216-010		SPR-E,JT
12	86-ZG1-203-210		GEAR,MAIN CAM
13	86-ZG1-213-110		LEVER,LOAD
14	86-ZG1-214-110		LEVER,PROTECT
15	86-ZG1-004-010		REFLECTOR,CD<ZRDM>
16	86-ZG1-205-110		GEAR,TRAY
17	84-ZG1-207-010		PULLEY,RELAY
18	84-ZG1-209-010		BELT,SQ1.8-117.7
19	86-ZG1-217-010		LEVER,SW
20	86-ZG1-206-110		GEAR,RELAY B
21	86-ZG1-220-110		SPR-P,LOCK
22	86-ZG1-204-110		GEAR,RELAY A
23	86-ZG1-218-110		PLATE,GEAR
24	86-ZG1-208-010		LEVER,TRAY
25	86-ZG1-209-110		SLIDER,CAM L(*)
26	86-ZG1-210-110		SLIDER,CAM R(*)
27	84-ZG1-244-310		CABI,OPTICAL
28	84-ZG2-228-010		PULLEY,MOT
29	86-ZG1-239-110		PLATE,DISC
30	83-ZG3-604-010		RING,MAG 2
31	86-ZG1-215-010		HLDR,CHUCK
32	86-ZG1-238-010		HLDR,MAGNET 6ZG N
33	86-ZG1-225-010		BELT,SQ1.2-32.9
34	86-ZG1-221-010		PULLEY,TT
35	86-ZG1-231-010		SPR-C,WORM
36	84-ZG1-256-010		GEAR,WORM N2
37	86-ZG1-232-010		SPR-P,WORM
38	86-ZG1-229-010		HLDR,SENSOR
39	86-ZG1-230-010		HLDR,DISC SENSOR
40	86-ZG1-201-310		CHAS,MECHA
41	86-ZG1-005-110		COVER,CHAS
42	86-ZG1-003-110		COVER,TRAY<ZRDM>
43	86-ZG1-609-010		CONN ASSY,6P<EXCEPT YZRNDCM>
44	86-ZG1-202-210		HLDR,MECHA
45	86-ZG1-212-410		SLIDER,LOAD
46	83-ZG3-211-010		PLATE,DISC
47	86-ZG1-605-010		CABLE,FFC 16P<EXCEPT YZRNDCM>
48	86-ZG1-667-010		F-CABLE,8P 1.25 175MM BLACK
A	87-078-148-010		VFT2+3-12(F10) BLK
B	87-251-072-410		U+2.6-5
C	81-ZG1-254-010		S-SCREW,MECH HLDR
D	87-067-579-010		TAPPING SCREW, BVT2+3-8
E	87-067-703-010		TAPPING SCREW, BVT2+3-10<ZRDM>

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

CD MECHANISM EXPLODED VIEW 1/1 (3ZG-2E2)



CD MECHANISM PARTS LIST 1/1 (3ZG-2E2)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-246-310		CHAS ASSY,SHT 5
2	83-ZG2-235-010		GEAR,A3
3	83-ZG2-205-210		GEAR,B
4	83-ZG2-236-010		GEAR,MOTOR 3
5	83-ZG2-253-110		SHAFT,SLIDE 5
6	87-A90-836-010		PICKUP,KSS-213F
7	83-ZG2-254-010		TURN TABLE,C5
8	83-ZG2-245-510		LEVER,SHUTTER(*)
9	83-ZG2-250-110		SPR-E,SHT 2
A	87-261-032-210		V+2-3

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

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